

# Public Utilities

*FORTNIGHTLY*



September 27, 1945

**PUBLIC POWER AT EXPENSE OF FEDERAL TAXPAYERS**

*By Ernest R. Abrams*

“ ”

**The Power of the Atom**

*By Robert M. Hyatt*

“ ”

**Dropping an Old Spanish Custom**

*By James H. Collins*

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PUBLISHERS

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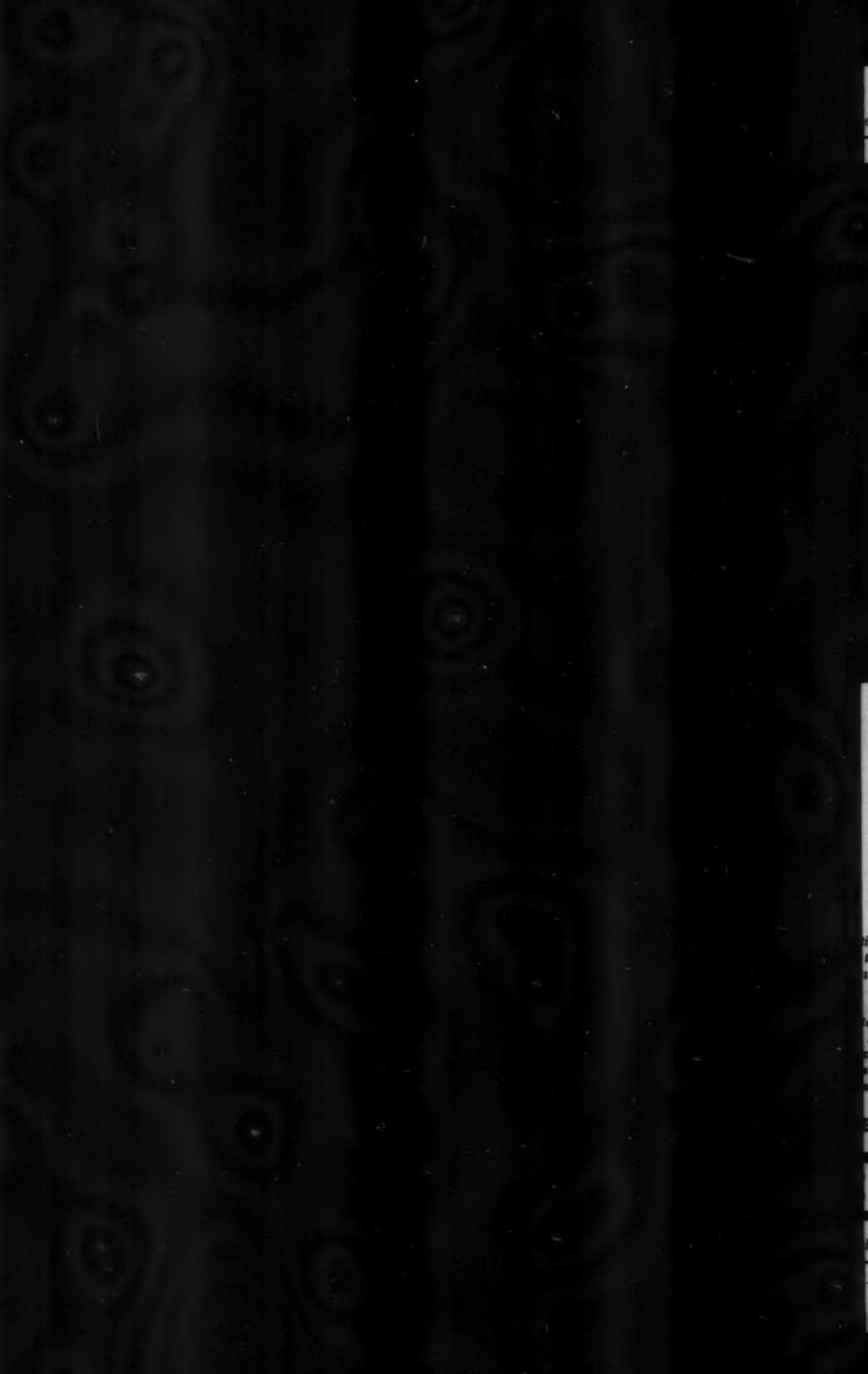


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# Public Utilities Fortnightly



VOLUME XXXVI

September 27, 1945

NUMBER 7

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**Q** *This magazine is an open forum for the free expression of opinion concerning public utility regulation and allied topics. It is supported by subscription and advertising revenue; it is not the mouthpiece of any group or faction; it is not under the editorial supervision of, nor does it bear the endorsement of, any organization or association. The editors do not assume responsibility for the opinions expressed by its contributors.*

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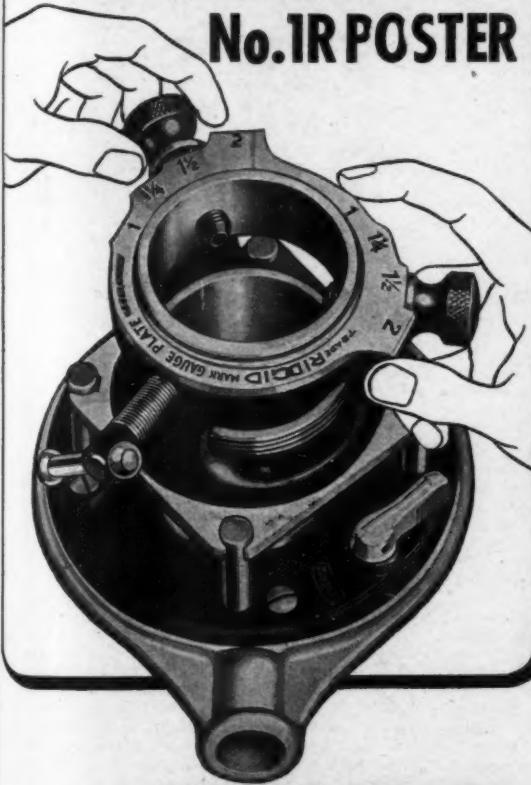
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SEPT. 27, 1945

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## Pages with the Editors

PRESIDENT Truman's first comprehensive message to Congress since he assumed the highest office has provided a basis for some interesting commentary, as well as comparison of Truman with his predecessor. The legislative program which President Truman put before Congress is certainly more than enough to keep it busy until the Christmas holidays. Indeed, sober judgment dictates that proportionately little more than a fraction of the entire program is likely to clear the legislative hurdles before the whistle blows on the first session of the Seventy-ninth Congress.

It is noteworthy, however, that President Truman does not exhort or scold as President Roosevelt might have done, and did do, on numerous occasions. Truman merely listed the tasks which, in his opinion, are essential. On the whole, they comprise an agenda of reform which bundles up completely pretty nearly the entire heritage of the New Deal. Here again it seems President Truman follows a more forthright procedure of throwing the whole works at Congress, at one time, instead of a series of piecemeal recommendations, judged on a more or less psychological basis for timing.

VIEWED in its entirety, the Truman program is big enough and broad enough to make even an arch New Dealer's eyes bulge. But Congress knows, as Ethel Barrymore used to say, "That's all there is, there isn't any more." One never knew in the old days of the New Deal when the last word was said. One never knew when another startling white rabbit would jump out of the chief executive's hat.

OBSERVERS are beginning to agree that the Truman approach is to recommend — to request. Occasionally he urges. But the attitude is one of good will; Congress is treated as a partner who needs only to be told what is desirable. This, in effect, puts the responsibility for legislation on Congress. In the opinion of a good many experts on constitutional law — that is where it belongs.

THIS spectacle of Congress being in the saddle and having the last word on writing laws makes our mind flash back over a decade to the busy and somewhat hectic days of the



JAMES H. COLLINS

*They are still changing power cycles in California.*

(SEE PAGE 431)

early New Deal. In those days, Congress didn't write very many laws for itself — not important ones at least. Congress approved and occasionally amended. But the drafting was done about a mile away from Capitol Hill.

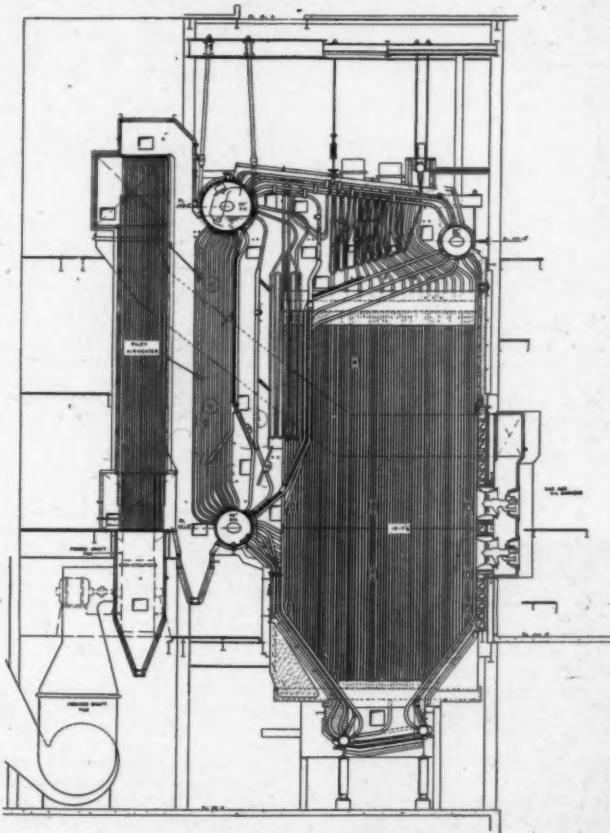
THE legislative draftsmen, of whom the famous team of Corcoran and Cohen was perhaps the most industrious, not only wrote the laws to the crossing of "t's" and dotting of "i's," but on occasion even lobbied their passage through Congress. This was done, largely, by telephone calls to Capitol Hill, the general nature of which has long since been made public property. The field of operations for this busy corps of draftsmen was not even confined to the city of Washington. Not content with writing laws for Congress, it wrote quite a few "enabling" laws for the edification and approval of the state legislatures — "model laws," as they were euphoniously called in those days.

We recall a group of about a dozen "model laws" which were drafted somewhere in the environs of the Interior Department and sent to nearly all of the state legislatures during

# More Power for Mississippi

Mississippi Power Company installing duplicate Riley Steam Generating Unit at Hattiesburg.

Commonwealth and Southern Corporation has also placed order for a duplicate Riley unit for S. Carolina Power Co., Charleston, S. C., and have installed a duplicate Riley unit at the Pensacola plant of Gulf Power Co. Riley units are also installed at Peoria, Ill. and Evansville, Ind. plants.



Riley Steam Generating Unit  
Mississippi Power Co., Hattiesburg, Miss.  
230,000 lbs./hr., 975 lbs. design pressure. 900° F. Steam Temp.

**RILEY**  
STOKER CORPORATION, WORCESTER, MASS.

## COMPLETE STEAM GENERATING UNITS

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AIR HEATERS - ECONOMIZERS - WATER-COOLED FURNACES  
STEEL-CLAD INSULATED SETTINGS - FLUE GAS SCRUBBERS

the biennial session of 1934. There was a "model law" for forming co-operatives. There was a "model law" designed to enable municipalities and other public divisions to avail themselves of Federal loans and grants. There was a "model law" on the issuance of revenue bonds; a "model law" on forming public utility districts.

SEVERAL states, following the example of Mississippi, passed the whole set with little or no change. But most of the state legislatures picked and chose and made liberal revisions. This, despite the impression prevailing in some quarters that the best and quickest way to get generous Federal funds was to swallow the entire "model" strictly according to the directions unofficially issued from drafting headquarters in Washington.

THESE memories recurred to us, simply by way of contrast, as we sat once more in the congressional gallery and heard an executive requesting Congress to write its own ticket along lines indicated. We wonder what has become of the busy band of legislative draftsmen who worked so prodigiously throughout the thirties. Corcoran is practicing law (and very successfully too, from all accounts). Cohen has retired to the higher realm of international diplomacy as counselor for the State Department. But there were others in virtually every Cabinet department of the government and many independent bureaus. They crammed the congressional hopper with bills, sometimes introduced without even having been read by the Congressmen who nominally sponsored them. Doubtless many are still on the public payroll. But probably none is writing laws today unless he was fortunate enough to be elected to Congress, but we don't know of any such instance.



ERNEST R. ABRAMS

Have you paid your neighbor's electric bill yet?

(SEE PAGE 415)

SEPT. 27, 1945

YES, it was an interesting period—an experience in our American democracy — when the executive branch and the legislative branch were almost merged for purposes of practical result. Doubtless much good law was written, and possibly some bad law, during this period. Some students of government may argue that such domination of the legislature was an inevitable by-product of a crisis. Other more cynical students may suggest that an executive branch which has the power to declare for itself, when there is a crisis, has an understandable tendency to move from crisis to crisis.

WHATEVER the merits of this argument, it is apparent from the Truman speech that we have now come back to the old-fashioned constitutional concept of three mutually exclusive branches of government. Whether the Supreme Court, as head of the judiciary, will exercise a greater latitude of independence will be seen during the coming term of the court, which opens in a few days. But it is clear that Congress is disposed to assume its full prerogatives and that President Truman is practically willing to have it that way.

THE mighty atom continues to occupy an impressive amount of space in the public print. Already a half-dozen bills on the subject have been introduced in Congress and by the time this issue is in the hands of our subscribers perhaps a half-dozen more will have made their appearance. Experts continue to issue contradictory statements as to the feasibility of industrial applications of atomic energy. And when experts fall out on such an occult subject, there is little for the layman to do beside trying to get a rough idea.

IN this issue we have an article by a writer of some years' standing on business, mechanical, and scientific subjects. ROBERT M. HYATT of Santa Barbara, California, gives us his version of some possible applications of atomic energy in the article which begins on page 424.

JAMES H. COLLINS, veteran editor and author of business articles, who lives in Hollywood, California, gives us a novel approach to a well-known subject in his article entitled "Dropping an Old Spanish Custom," which begins on page 431. ERNEST R. ABRAMS, whose article on "Public Power at Expense of Federal Taxpayers" begins on page 415, is a financial and business writer living in New York city whose articles frequently appear in this publication.

THE next number of this magazine will be out October 11th.

*The Editors*

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**HE** introduced economies through the Unit Plan of Book-keeping. Consumers Power Co. accounts are divided into groups. Meter books and ledgers are housed in Remington Rand Safe-Desks for certified fire protection at point of use. The flow of work remains constant... peaks and delays are ended. Inquiries handled faster. Efficiency and accuracy are increased, labor saved.



**HE** helped increase equipment utilization with Kardex. In adopting Kardex *Visible* Systems for more effective record controls and lower operating costs, this company installed a Meter and Transformer History Record for easy, rapid reference to location and status of all owned meters. Kardex also serves as a property record, protected from wear, loss and misfiling.

KARDEX - of course!

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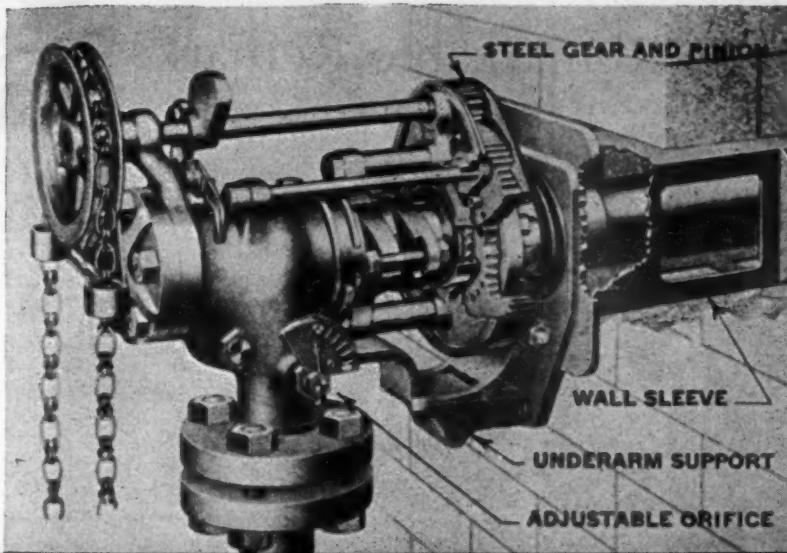
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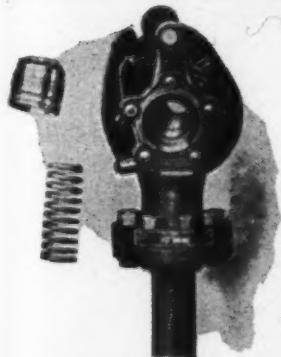
*Various regulatory rulings by courts and commissions reported in full text,  
pages 257-320, from 59 PUR(NS)*



## VULCAN AUTOMATIC VALVED SOOT BLOWERS

THE VULCAN AUTOMATIC VALVED HEAD, MODEL LG-2, was developed some 12 years ago as a result of an exhaustive study of existing soot blower heads and their capability of meeting the new and severe conditions about to be imposed on them by the modern high pressure boiler. A new design, breaking tradition with the old-fashioned low pressure heads, was indicated and the LG-2 head was designed with the following features in mind:

- (1) A head universal in its application
- (2) A head economical in steam (or air) consumption
- (3) A head easy to install
- (4) A head easy and simple to operate
- (5) A head low in maintenance and easy to service



Cover Removed and Valve  
Parts Exposed

The use of a pilot for operating the valve in the head proved to be the key to the required design and marked a radical departure from the traditional head of low pressure days. A single chain operating through a gear reduction revolves the element and, by means of stops at the end of the blowing arc, moves the pilot to open and close the valve in the head.

This design makes the LG-2 head universal in its application. The pilot operated valve permits the head not only to be used at low pressure but also at pressures up to 1500 pounds. Opening the valve in the head against high pressure, the bug-a-booo of most soot blower heads, is no problem with the Vulcan head as the steam pressure does the job, the operator merely having to move the small pilot valve.

Operators prefer the LG-2 head after using other heads because of its simple and easy operation. The enclosed cut steel gear and alloy pinion, the self lubricated special shaft bearings, and the enclosed ball bearing taking the steam thrust as well as the radial load all make for frictionless operation. Element binding and warping are prevented by the underarm support which balances the weight of the head and piping against an adjustable spring, without any cantilever effect on the element and permits the element to float inside the wall sleeve. A ball and socket joint in the sleeve prevents element strains by allowing relative motion of the setting and element and, at the same time, keeps the setting tight.

The interests of the contractor and boiler erector have not been overlooked in the design of the LG-2 head. It is, perhaps, the easiest head to install. Because of the flanged connection between the element and the head, the assembly of these parts in the field is relatively simple.

Write for New Catalog

## VULCAN SOOT BLOWER CORPORATION

Du Bois, Penna.



## Remarkable Remarks

*"There never was in the world two opinions alike."*

—MONTAIGNE



ROBERT K. RICHARDS  
*Editorial director, Broadcasting.*

"Stratovision! That's the proposed 'atomic bomb' of broadcasting."

WILLIAM WITHERS  
*Professor of economics, Queens College.*

"Government spending need not be more inflationary than private spending if government debts result in employment and production."

EDITORIAL STATEMENT  
*The Journal of Commerce.*

"Perhaps the greatest of all threats to prosperity in the United States is the rigid character our economy has acquired, particularly as regards labor."

HAROLD L. ICKES  
*Secretary of the Interior.*

"... the spending of \$4,000,000,000 or \$5,000,000,000 on a public works program to halt a depression would be comparable to priming a pump with an eye dropper."

ROBERT A. TAFT  
*U. S. Senator from Ohio.*

"... only those public works should be authorized which are economically justifiable. The theory that public works are justified because they make jobs or that they afford any solution of serious unemployment is a fallacy."

EDITORIAL STATEMENT  
*The Wall Street Journal.*

"This newspaper wishes that the Federal government had never entered the field of labor relations beyond the rôle of conciliator. The time may not be far off when some of our labor leaders will entertain the same wish, even though they may think it impolitic to voice it publicly."

J. P. SEIBERLING  
*President, Seiberling Rubber Company.*

"How are we going to defeat collectivism and drive its destructive ideas from our midst? ... The task is a large one but it can be accomplished by effective organization of freedom-loving individuals who are determined to see the cause of freedom maintained and strengthened in our land."

FRANK E. WATTS  
*Executive assistant, Farm Journal.*

"A TVA, MVA, or any other VA will not solve the problem [of soil conservation]. The building of most of the great government dams—dramatic and spectacular from a publicity standpoint—often has flooded some of our best bottom farm lands. ... The place for dams is in the little gullies on the farms, caused by erosion, and in the headwaters of small streams."

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## REMARKABLE REMARKS—(Continued)

CHARLOTTE WARE  
*Los Angeles housewife.*

"It's [automobile radio] a step in the right direction. And when television comes in, the wives of America will finally have 24-hour control over their husbands."

VIRGIL JORDAN  
*President, National Industrial Conference Board.*

"Sooner or later a community that makes unlimited consumption a political principle for unlimited government must end by consuming itself—its human capital along with its material resources."

J. D. BERNAL  
*Professor of physics, Birkbeck College, University of London.*

"Attempts to control this [atomic] force by secrecy and limitation are foredoomed to failure. The real way to insure freedom from fear and suspicion is not negative restraints but rapid expansion."

BERNARD BARUCH  
*Financier.*

"The American people can do anything if you will tell them why, but you must tell them why. But they are never subordinate to the state, as in some other lands. The state does not control them; it comes to their assistance when they need it."

EDITORIAL STATEMENT  
*Business Action.*

"Let's keep 'reconversion' as a technical term meaning 'retooling.' Let's keep the phrase 'reconversion period' to cover a length of time in which we get accustomed once more to being free from government controls. And let its use stop right there."

RALPH L. CARR  
*Former governor of Colorado.*

"The Tennessee Valley Authority—which has operated with a seemingly bottomless pocketbook, filled with other people's money—has expended in the few years of its existence, on an area of approximately 40,000 square miles, nearly as much money as the Bureau of Reclamation has spent in more than forty years' activities in 17 semiarid states."

HARRY E. HUMPHREYS  
*Chairman, National Association of Manufacturers Committee on Taxation.*

"Production is the key to honest retirement of the debt. Production is the only way that our government can redeem war bonds in hard dollars. Repudiation of these savings by questionable financial operations would be completely immoral. Tax adjustments which stimulate production are the best protection our holders of government bonds can get."

EDITORIAL STATEMENT  
*The Guaranty Survey.*

"The belief that the government can and should permanently maintain a predetermined volume of aggregate employment by fiscal manipulations is, at best, an untried hypothesis; and to make the guaranty of such employment the basis of a permanent policy, with public credit and the soundness of the national currency among the ultimate stakes, would be to invite disaster."

# R&IE

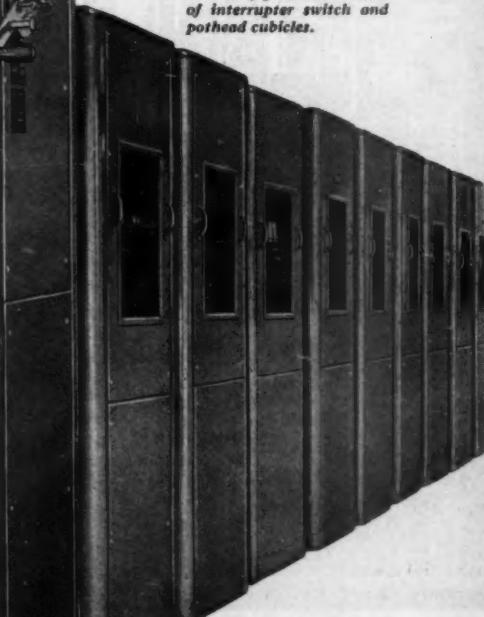
## the Switching Equipment SPECIALIST



Along with the many years experience in solving the problems of switchgear manufacturing, R&IE has concentrated much of its attention on Metal Cubicle Work. Switch and bus terminal cubicles have been made to accommodate every condition for many years.

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### OIL and AIR FILLED INTERRUPTER SWITCHES

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CUTOUTS AND  
THERMO-RUPTURES

SWITCH OPERATING  
MECHANISMS

SUBSTATIONS

OPEN OR ENCLOSED  
ISOLATED PHASE  
HEAVY DUTY BUS

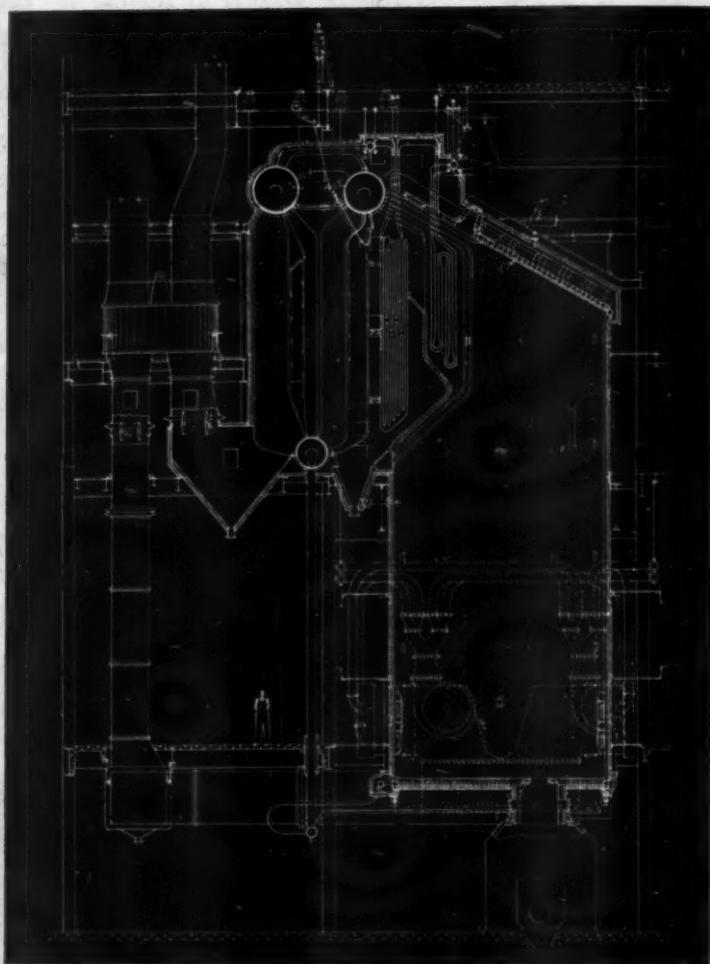
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TESTING DEVICE

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**with another 400,000 lb. unit**

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A duplicate unit has recently been ordered.

A-381-A



**COMBUSTION ENGINEERING CO., Inc.**

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200 MADISON AVENUE

NEW YORK 16, N. Y.

# Don't let your Substations Tie you down

Here's another example of the greater adaptability to changing needs that you derive from standardization and repetitive manufacture of power apparatus.

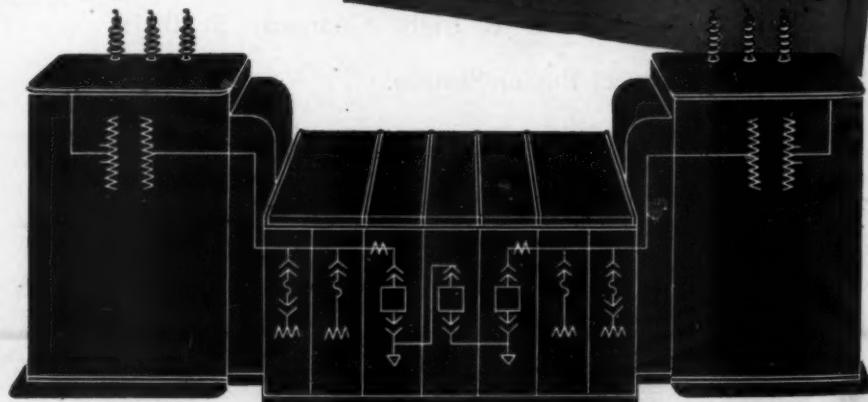
An inherent advantage of the unit substation is that it provides a true building-block approach to the problem of meeting expanding power requirements. Initially a single unit may be installed. Identical units can then be added as needed, interconnected to form a combination as economical and efficient as if the whole had been designed as one.

With unit substations, there is no problem of substation obsolescence—due to feeder-circuit-

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Whether tomorrow's loads are easily forecasted or highly unpredictable, it will pay you to base your plans on these blocks of substation capacity. Ordered "out of the catalog" and built by repetitive manufacture, they offer a practical way to get the most from capital investment. Apparatus Dept., General Electric Company, Schenectady 5, N. Y.

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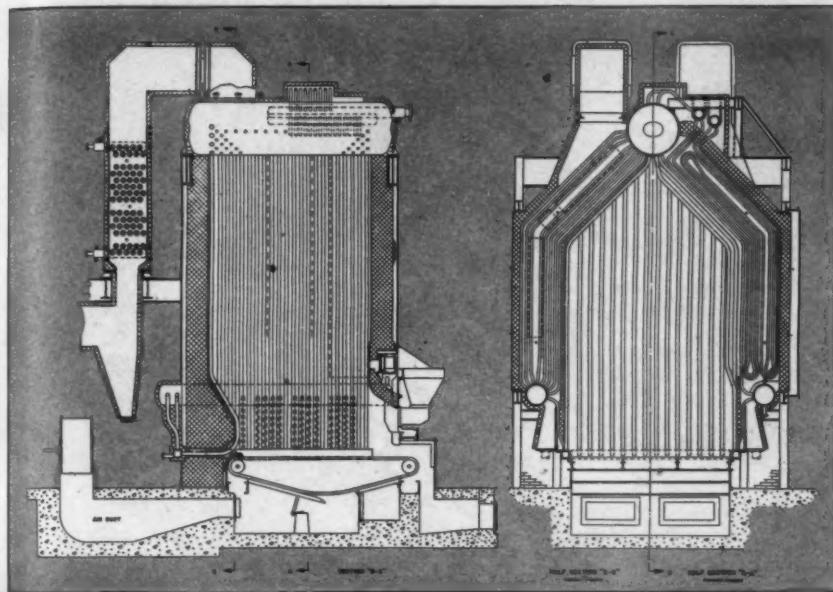
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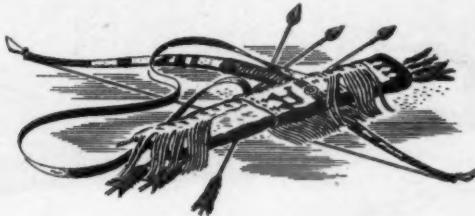
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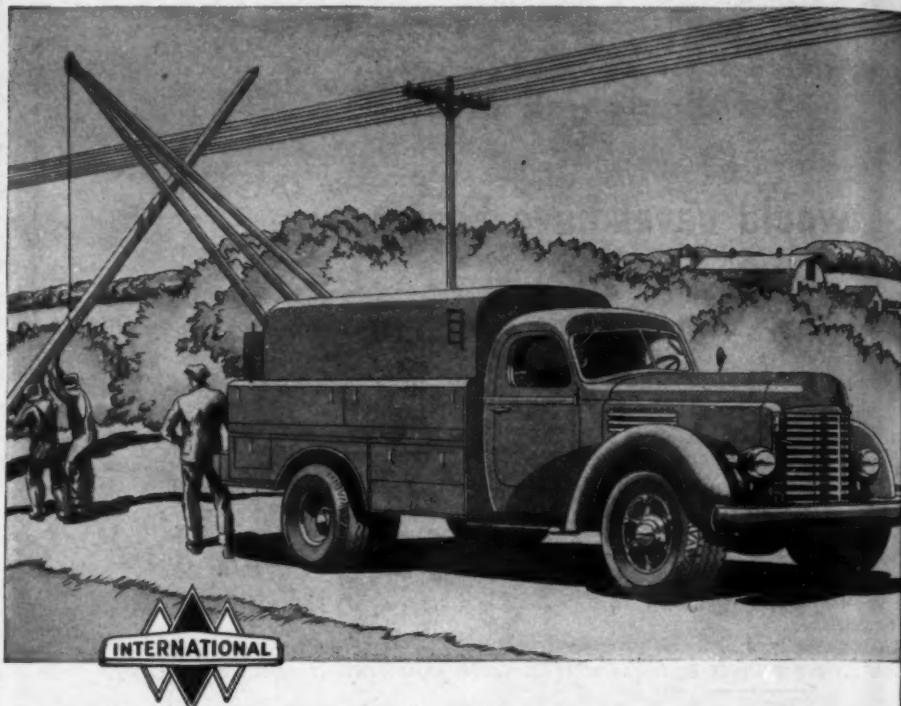
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# Utilities Almanack

Due to wartime travel restriction, conventions listed are subject to cancellation.

## SEPTEMBER

27	T <sup>h</sup>	¶ Indiana Electric Association starts annual meeting, French Lick, Ind., 1945. ¶ Pennsylvania Electric Association ends session, Philadelphia, Pa., 1945.
28	F	¶ New England Gas Association will hold appliance servicing conference, Boston, Mass., Oct. 16, 1945. 
29	S <sup>a</sup>	¶ American Water Works Association, Southwest Section, will hold meeting, Oct. 16, 17, 1945.
30	S	¶ American Welding Society will convene, New York, N. Y., Oct. 18, 1945.

## OCTOBER

1	M	¶ International Association of Electrical Inspectors, Southwestern Section, starts meeting, San Francisco, Cal., 1945.
2	T <sup>h</sup>	¶ United States Independent Telephone Ass <sup>o</sup> . opens board meeting, Chicago, Ill., 1945. ¶ New England Gas Association conducts safety conference, Boston, Mass., 1945. 
3	W	¶ Texas Water Conservation Association convenes, Austin, Tex., 1945.
4	T <sup>h</sup>	¶ Southeastern Electric Exchange, Engineering and Operation Section, opens meeting, Raleigh, N. C., 1945.
5	F	¶ American Gas Association will hold annual meeting, New York, N. Y., Oct. 24, 25, 1945.
6	S <sup>a</sup>	¶ Pennsylvania Electric Association, Electrical Equipment Committee, will hold meeting, Philadelphia, Pa., Oct. 25, 26, 1945. 
7	S	¶ Kansas Association of Municipal Utilities starts annual convention, Emporia, Kan., 1945.
8	M	¶ Edison Electric Institute Prime Movers Committee starts meeting, Buffalo, N. Y., 1945.
9	T <sup>h</sup>	¶ American Water Works Association, New Jersey Section, will convene, Atlantic City, N. J., Nov. 9, 1945.
10	W	¶ American Petroleum Institute will hold convention, Chicago, Ill., Nov. 12-15, 1945.



*Courtesy of The New School*

*Elsie Hafner, N. Y.*

### **"Steel"**

*A mural painting by Thomas Hart Benton*

# Public Utilities

*FORTNIGHTLY*

VOL. XXXVI; No. 7



SEPTEMBER 27, 1945

## Public Power at Expense of Federal Taxpayers

The author declares that government agencies can afford to pay a much higher purchase price for utility properties than can private concerns because of discriminatory tax exemption in favor of the public enterprises.

By ERNEST R. ABRAMS

ALTHOUGH the common stock of Nebraska Power Company was sold by American Power & Light Company to the Omaha Electric Committee, Inc., last December for \$14,421,000, it seems that Representative Lyle H. Boren did not learn until around the end of June that American Power & Light had originally acquired this stock in the early 1920's for slightly more than \$815,360. And when he did hear of it, he immediately jumped to the conclusion that some fancy burglary had been perpetrated.

At any rate, on July 6th he delivered in the House a violent attack on this transaction, and on the entire arrangement by which municipalities can buy the privately owned utilities serving them and escape Federal taxation. But he shot in the wrong direction. A group of Wall Street bankers and public utility holding companies had, he said, launched "a trick corporation" for the purpose of "swindling the Federal taxpayers of billions of dollars," and "Wall Street bankers would convert the \$18,000,000,000 private

## PUBLIC UTILITIES FORTNIGHTLY

utility industry to form a tax-free but fake public ownership by the formation of 'nonprofit' corporations."

Apparently, his unsupported accusations sufficiently impressed the House Interstate and Foreign Commerce Committee to arouse it to action because, on July 10th, it authorized an investigation into the need of tightening up the Holding Company Act by a subcommittee composed of Mr. Boren and Representatives Murphy of Pennsylvania and Reece of Tennessee. Hearings were held from July 11th to 13th, inclusive, after which the subcommittee adjourned until sometime after September 5th when the recessed Congress reconvene.

**W**HAT is the full story behind the sale of Nebraska Power and other privately owned utilities to public bodies over the past decade? What will the Boren subcommittee discover if it conducts a complete and fearless investigation, without attempting to "whitewash" Congress and Federal bureaus? Have these sales of privately owned utilities been the product of a conspiracy between Wall Street bankers and holding company managements, as Mr. Boren intimates, or does the blame lie elsewhere?

Section 11 of the Public Utility Act of 1935, as interpreted by the Securities and Exchange Commission, provides that utility holding companies may retain but one integrated operating subsidiary and must dispose of all others they may own. In the case of Engineers Public Service Company, for example, the SEC held that it might keep Virginia Electric & Power Company but none of its other subsidiaries. And, in the case of North American

Company, it held that an integrated operating system serving the St. Louis metropolitan area and adjoining territory might be retained, but the operating subsidiaries in Ohio, Wisconsin, and the District of Columbia, along with holdings of Detroit Edison capital stock and Pacific Gas and Electric common shares, could not be kept.

Naturally, this proposed the question of who might buy these surplus operating systems, for, while the SEC has authority under the 1935 act to force their sale by registered holding companies, it has no power whatever to force anyone to buy them. Generally speaking, there are two broad classes of prospective buyers for these operating systems—private interests and the served communities or areas. And since these operating systems would be exempt from Federal taxation as soon as they passed into public ownership, public bodies enjoy a tremendous advantage over private interests in dealing for these properties.

**A**LTHOUGH some authorities hold to the contrary, the consensus in legal and legislative circles is that the Federal government cannot tax any activity of a state or its political subdivisions without amendment of the Constitution. And although the Carlson Bill (HR 2014), introduced early in the year and now marking time in the House Ways and Means Committee, would curb the tax exemption of municipal bonds issued to acquire tax-paying privately owned utilities, its constitutionality doubtless would be attacked if enacted into law.

As things now stand, the served communities, or groups of them, and public power districts can buy these

## PUBLIC POWER AT EXPENSE OF FEDERAL TAXPAYERS

surplus operating subsidiaries of holding companies and "save" the Federal taxes, along with a considerable part of the state and local taxes, which the present owners or prospective private purchasers would have to pay. This was not so much of an advantage before 1940, but with the inception of our defense program in June of that year, and particularly after our entry into World War II, Federal taxes began to mount at an amazing pace. Where the total Federal tax bill of all privately owned electric utilities was but \$140,000,000 in 1939, it had jumped by 234 per cent to \$468,000,000 by 1944. Last year, Federal taxes alone consumed 15.8 per cent of operating revenues, compared with but 6.5 per cent five years earlier. These are, of course, industry figures, but they indicate the advantage which

public bodies enjoy in the ownership and operation of their own electric supply systems from exemption from Federal taxation.

A FEW specific instances will serve to indicate how exemption from Federal taxation is driving the non-retainable operating subsidiaries of holding companies into public ownership. Until the middle of 1942, San Antonio Public Service, Inc., was an operating subsidiary of American Light & Traction Company which, in turn, was a subholding company in the United Light & Power system. And the SEC in its integration plans for United Light & Power turned thumbs down on retention of the San Antonio subsidiary. In addition to rendering electric and natural gas service to San Antonio and surrounding communi-



TABLE I  
INCOME ACCOUNT OF NEBRASKA POWER COMPANY  
*For the Twelve Months Ended November 30, 1944*

Operating Revenues .....	\$11,154,517
Operating Revenue Deductions:	
Operating Expenses Excluding Direct Taxes .....	\$ 5,389,894
Direct Taxes:	
Federal .....	1,363,081
Other .....	944,807
Property Retirement Reserve Appropriations .....	730,000
Amortization of Limited-term Investments .....	9,360
Total Operating Revenue Deductions .....	\$ 8,437,142
Net Operating Revenues .....	\$ 2,717,375
Other Income .....	6,473
Gross Income .....	\$ 2,723,848
Interest on Mortgage Bonds .....	\$ 742,500
Interest on Debenture Bonds .....	210,000
Other Interest and Deductions .....	145,997
Interest Charged to Construction—Credit .....	2,091
Net Income .....	\$ 1,627,442
Dividends Applicable to Preferred Stocks .....	499,100
Balance for Common Stock and Surplus .....	\$ 1,128,342

## PUBLIC UTILITIES FORTNIGHTLY

ties, it also operated a bus transportation system in San Antonio, but since the bus system was sold to private interests at the same time the electric and gas facilities were acquired by the served communities, it need not enter this discussion.

During the twelve months ended with May, 1942, San Antonio Public Service received electric and gas operating revenues, plus a small amount of nonoperating revenues, totaling \$8,735,657, against which it incurred operation, maintenance, and depreciation expenses of \$5,184,100. In addition, its Federal tax bill amounted to \$1,071,929 and its state and local tax bill to \$776,900. But if 1944 tax rates had been in effect during this 12-month period, its Federal taxes would have approximated \$1,400,000.

**H**AD the property remained in the hands of American Light & Traction in 1944, or had it been purchased by private interests in mid-1942, the total tax bill of San Antonio Public Service would have been in the neighborhood of \$2,177,000, of which about 64.3 per cent would have been comprised of Federal taxes. But on the basis of taxes actually paid in the twelve months ended with May, 1942, only 57.9 per cent of its \$1,848,829 tax bill was represented by payments to Federal tax collectors. If, however, the city of San Antonio and near-by communities had owned this utility during the twelve months under review, they could have "saved" all the Federal taxes and about half the state and local taxes which the privately owned company was required to pay, or about \$1,460,380.

In other words, where the privately

owned utility had \$1,702,728 left after payment of all expenses and taxes with which to reward the capital it had hired, the balance of revenues accruing to the communities would have been \$3,163,000 or almost twice as much. Obviously, then, these communities could afford to pay a higher price for San Antonio Public Service than any private buyer. And that's exactly what happened. The price bid by the served communities topped the highest bid by private interests and they bought the utility, except for the bus transportation system. Even Representative Boren could hardly blame the American Light & Traction directors, accountable to the stockholders for conservation of their contributions to the enterprise, for accepting the highest bid, regardless of who made it.

**A**NOTHER instance of the acquisition by a community of the privately owned electric utility serving it is that of Key West, Florida. Although this community had been served for more than forty-five years by Key West Electric Company, an operating subsidiary of Engineers Public Service Company, the SEC required that Engineers dispose of it, along with all but one of its other subsidiaries. During the twelve months ended with June, 1943, the company had operating revenues of \$382,461, and after meeting operation, maintenance, and depreciation expenses, and paying its Federal, state, and local tax bills, a balance of \$85,179 remained for interest and dividends. But if the city of Key West had owned this utility during the twelve months under review, it could have avoided paying all of the \$77,343 which the privately owned company

PUBLIC POWER AT EXPENSE OF FEDERAL TAXPAYERS



TABLE II  
BALANCE SHEET OF NEBRASKA POWER COMPANY  
*As of November 30, 1944*

<i>ASSETS</i>	
Total Utility Plant .....	\$35,397,462.95
Cash and Temporary Cash Investments .....	2,748,193.57
Accounts, Interest, and Dividends Receivable .....	811,437.79
Materials and Supplies .....	802,247.87
Prepayments .....	170,265.03
Other Current and Accrued Assets .....	35,847.68
 Total Current Assets .....	 \$ 4,567,991.94
Unamortized Debt Discount and Expense .....	1,383,612.26
Retirement Work in Progress .....	115,182.41
Other Deferred Debits .....	64,910.97
 Total Deferred Debits .....	 \$ 1,563,705.64
Capital Stock Expense .....	179,979.09
Discount on Capital Stock .....	470,363.28
 Total Capital Stock Expense .....	 \$ 650,342.37
Contra Assets .....	\$ 10,540.93
 Total Assets .....	 \$42,190,043.83
<i>LIABILITIES</i>	
Common Stock—No Par—1,000,000 shares .....	\$ 5,000,000.00
Preferred 7% Stock—\$100 Par—51,962 shares .....	5,196,200.00
Preferred 6% Stock—\$100 Par—22,561 shares .....	2,256,100.00
 Total Capital Stock .....	 \$12,452,300.00
Long-term Funded Debt .....	\$20,000,000.00
Accounts Payable and Dividends Declared .....	\$ 299,156.20
Customers' Deposits .....	160,569.52
Taxes Accrued .....	1,691,514.49
Interest Accrued .....	471,935.08
Other Current and Accrued Liabilities .....	60,920.26
 Total Current and Accrued Liabilities .....	 \$ 2,684,095.55
Total Deferred Credits .....	\$ 59,800.79
Reserve for Property Retirement .....	\$ 6,467,893.82
Other Reserves .....	251,483.19
 Total Reserves .....	 \$ 6,719,377.01
Surplus .....	\$ 237,289.55
Contributions in Aid of Construction .....	26,640.00
Contra Liabilities .....	10,540.93
 Total Liabilities .....	 \$42,190,043.83

## PUBLIC UTILITIES FORTNIGHTLY

paid to the Federal government in taxes, and all but \$14,000 of the \$41,963 in state and local taxes which the utility actually paid.

Restated, if this utility had been owned by the city of Key West during this period, the city could have "saved" a total of \$105,206 in taxes which the privately owned company paid, thereby boosting the balance of revenues available for bond interest and debt retirement from the \$85,179 earned by the privately owned utility to \$190,385, or by nearly 124 per cent. So Key West sold \$1,500,000 of tax-free revenue bonds, paid \$1,293,000 for the utility, and after all expenses in connection with the transaction had been paid it had around \$83,000 left for working capital.

COMMUNITIES are not, however, the only purchasers of privately owned utilities which can benefit from an ability to avoid payment of Federal taxes. For instance, Missouri Electric Power Company, an operating utility rendering electric service, along with some incidental water and ice service, to forty communities and their surrounding areas in southern and southeastern Missouri, was a subsidiary of Central States Power & Light Corporation which, in turn, was a subholding company of Ogden Corporation. But in imposing its "death sentence" on Ogden Corporation, the SEC directed that it dispose of Missouri Electric Power along with other subsidiaries. Several near-by privately owned utilities were interested in buying parts of the system, while other private interests dickered for the utility as a whole.

But the Sho-Me Power Coöperative, a rural electrification project to

which the Rural Electrification Administration had advanced 100 per cent of the funds required for its establishment, and which paid no Federal and but insignificant state and local taxes, also wanted the property. And because of its tax exemption, which had the effect of boosting the amount of earnings it could withdraw from operation of the utility to levels high above those possible under private tax-paying ownership, it could afford to pay substantially more for the utility than private interests.

THE SEC approved the purchase of Missouri Electric Power by the Sho-Me Power Coöperative on December 1, 1942, for \$2,500,000, which was reputed to be from \$50,000 to \$125,000 more than the various private interests dickering for all or parts of the system were willing to pay. And the Sho-Me Coöperative could well afford to pay such a price, because that portion of operating revenues which the privately owned utility had been required to contribute to the support of the Federal government was just so much added profit to it.

Two major circumstances account for the acquisition of these three privately owned electric utilities, as well as many others during the past decade, by the communities or areas they served. First, publicly owned utilities are able to escape the burden of Federal taxation which, since the close of 1939, has advanced more than  $2\frac{1}{2}$  times, and which, since the close of 1941, have increased nearly  $1\frac{1}{2}$  times. And, second, under the legalistic interpretation of the Holding Company Act by the SEC, public utility holding companies have been forced to dispose of op-



### Comparison of Taxes

**D**URING the twelve months ended with May, 1942, San Antonio Public Service received electric and gas operating revenues, plus a small amount of nonoperating revenues, totaling \$8,735,657, against which it incurred operation, maintenance, and depreciation expenses of \$5,184,100. In addition, its Federal tax bill amounted to \$1,071,929 and its state and local tax bill to \$776,900. But if 1944 tax rates had been in effect during this 12-month period, its Federal taxes would have approximated \$1,400,000."

erating subsidiaries during a period of abnormally high Federal taxes, which are purely a product of the war effort and are of a temporary character.

**W**HEN we turn to the situation in Nebraska, however, we find a third circumstance influencing the transfer of privately owned electric utilities to public ownership. The Public Works Administration, created under Title II of the National Industrial Recovery Act and approved by the President on June 13, 1933, authorized and empowered the President, through the PWA Administrator, "to construct, finance, or aid in the construction of any public works" included in a program prepared in accordance with the act, and "to make grants to states, municipalities, or other public bodies for the construction, repair, or improvement of any such project," with

a ceiling of 30 per cent "of the cost of the labor and materials employed upon such project." This ceiling was later raised to 45 per cent of such cost.

With this opportunity to get some free money for Nebraska, the late Senator Norris, an avowed exponent of public ownership of electric utilities, immediately began pressing for the construction of three large hydroelectric projects in the state, although non-government engineers of repute had long frowned on any attempt to make power on any of Nebraska's rivers. Eventually three large hydro projects were built in Nebraska with funds from the Federal Treasury, 45 per cent of the cost being an outright gift and the balance loaned at very low rates.

**B**UT when the three projects had been completed, they had no mar-

## PUBLIC UTILITIES FORTNIGHTLY

ket for their power, since every community of 250 or more population already had its source of electric supply. Two methods of procedure were open to the projects. They could buy the privately owned utilities which were serving the majority of Nebraska communities and areas, or they could build duplicating facilities and drive private enterprise from the field of electric service in the state through ruthless competition. Fortunately, the former course was pursued and by more than three years ago, every privately owned electric utility in the state had passed into public ownership except Nebraska Power Company, which served the city of Omaha and some thirty-eight surrounding communities.

As early as 1937, Howard L. Aller, president of American Power & Light Company, revealed in testimony before Mr. Boren's subcommittee, the late J. D. Ross, first superintendent of Seattle's public electric system, then an SEC commissioner and finally the Bonneville Power Administrator, along with Guy C. Myers of New York, a public ownership promoter, called at his office and said he was prepared to pay \$45,000,000 for Nebraska Power Company, which price would have yielded a higher price for the common stock than that received last December. Mr. Ross further said that he had been sent "by an important person in the administration" and that this price was being bid "with the full knowledge and approval of his principals in Washington."

**W**HEN American Power & Light refused to sell, the only newspaper of general circulation in Omaha led a campaign of vituperation against

the utility in an endeavor to stimulate a demand for public ownership. Furthermore, during the next six years, the Consumers Public Power District, a public body in Nebraska, and a "panel" of citizens appointed by the mayor of Omaha both made bids for Nebraska Power which were almost identical with that made by Mr. Ross. And, in addition, the Peoples Power Commission of Omaha, a public power district created by the Nebraska legislature in 1943, also bid about the same price for the company. Finally, in December of 1944, American Power & Light sold the common stock of Nebraska Power to a group of public power-minded Omaha citizens, banded together as the nonprofit Omaha Electric Committee, Inc., who publicly declared their intention of turning over ownership of the utility to such public power body as would be empowered to own and operate it.

Turning now to Nebraska Power Company, it will be seen from the data contained in Tables I and II that during the twelve months ended with November, 1944, the last full twelve months' period during which Nebraska Power was privately owned by American Power & Light, this utility had operating revenues of \$11,154,517; after all expenses including Federal taxes, it had a gross income of \$2,717,375 with which to pay the wages of the capital it employed; and, after meeting all interest charges and preferred dividends, a balance of \$1,128,342 remained for common stock dividends and contributions to surplus. Likewise, as of the close of last November, Nebraska Power had a net investment in utility plant of \$28,929,569, net current assets of \$1,880,356, and of its current

## PUBLIC POWER AT EXPENSE OF FEDERAL TAXPAYERS

assets \$2,748,194 was in the form of cash or its equivalent.

AT the time of the sale, American Power & Light owned but 970,992 shares of Nebraska Power common stock out of the 1,000,000 shares outstanding, but it had secured options on the remaining 29,008 shares, held by directors of Nebraska Power, and was able to deliver these options to the Omaha Electric Committee along with the shares it owned. To exercise these options, however, the committee had to spend some \$40,000 in addition. From data available in New York, it is difficult to determine whether the full cost of 100 per cent of Nebraska Power common to the committee was the \$14,421,000 already mentioned or in the neighborhood of \$14,460,000. However, it is being assumed herein that \$14,421,000 covered the cost of 100 per cent of the stock.

At this, or even the slightly higher, price, it would appear that the Omaha Electric Committee got a bargain. Standard & Poor's Corporation, according to Dr. B. Griffiss, its public utility economist, considered Nebraska Power's common stock worth at least fourteen times earnings, and on this basis American Power & Light should have received \$15,358,680 for 100 per cent of the stock. Moreover, where Nebraska Power under private ownership had earnings of \$1,128,342 available to the common stock after payment of Federal taxes of \$1,363,081, the city of Omaha would not have been required to pay any Federal taxes had it owned the utility during this period. Accordingly, the amount of net earnings that would have accrued to Omaha

during this period would have been \$2,491,423, which is 120.8 per cent greater than the \$1,128,342 that was available for common stock dividends under private ownership. And on the basis of these adjusted earnings, the Omaha Electric Committee paid 5.961 times the earnings that would have accrued to it, compared with 13.1625 the earnings that actually were available to the private owners.

Most important, however, the price which American Power & Light Company actually received for its holdings of Nebraska Power common, plus the director-held shares, was not established by it. Actually, this price was fixed as far back as 1937 by the late J. D. Ross, who said in his first attempt to buy Nebraska Power that he had been sent "by an important person in the administration" and that the price of \$45,000,000 he was bidding was with "the full knowledge and approval of his principals in Washington." Furthermore, Governor Dwight Griswold of Nebraska conferred with the Securities and Exchange Commission regarding the sale of the common stock of Nebraska Power by American Power & Light to the Omaha Electric Committee, after Mr. Boren's attack on the transaction of July 6th, and issued a statement to the effect that the SEC "said nothing had come to their attention that indicated fraud of any kind."

If Mr. Boren's subcommittee is really desirous of getting to the bottom of this sale, it could well turn its attention to those "principals in Washington" of Mr. Ross and find out just who set the price of \$45,000,000 for Nebraska Power Company in the first place.



## The Power of the Atom

The views of scientists, declares the author, differ as to what it will bring to a peaceful world, but the majority agree that while applications will prove amazing, they will supplement rather than supplant present power systems for some time to come.

By ROBERT M. HYATT

**T**HE Age of the Atom is almost here. Although just dawning, it brings visions of fantastic changes in our civilization of the future.

Plutonium. It is a new word in the layman's vocabulary, but it is a stupendous word. It is a new element, discovered during the race to harness the atom. Plutonium is a derivative of uranium, from which comes radium—and this newly discovered power of the atom. It was only a pinhead-sized speck in the beginning, which was not so long ago, but its incredible potentialities were so great that Uncle Sam bet \$2,000,000,000 an atomic bomb could be built.

Uncle Sam won the bet. That first sensational bomb crumpled Hiroshima. The second changed Nagasaki into a smoking shambles. Those two bombs,

the first of their kind the world has ever known, caused Japan to surrender. They wrote strange history. And they caused eminent men of science to peer into the future and give us a picture of some things to come.

These scientific men tell us that because of our discoveries in the field of atomic power, we may expect:

Automobiles and trains that will run for their lifetime on a single fueling of a bit of stuff from which atomic power can be released at will.

Airplanes which will circle the globe—yes, even go to the moon—on a bit of fuel that could be carried in one's pocket.

Furnaces of vest-pocket size that will heat a 12-room house all winter on a few cents worth of fuel.

Power for whole cities produced from a few handfuls of matter.

## THE POWER OF THE ATOM

Giant ocean liners that will circumnavigate the world on a "power brick" a few inches square.

**B**EFORE we tell you how these things can come about, let us glance at a few down-to-earth facts about the atom and its discovery as a power source.

When man chained the lightning, ushering in the electrical age, many predicted that the new force would destroy the race. A similar vague foreboding has seized upon us with the revelation that a force vastly greater than lightning—the same sort of energy source with which the sun permits life to continue on earth—has been harnessed in the atomic bomb.

How dangerous to you and me is the weapon which has abruptly ended the war with its terrible power? Science points out that whatever forces they have invoked in the past have been relatively easy to control. The same genius which produced the bombs, they are confident, will enslave the giant forces unlocked from the atom's heart.

Earlier fears that the bombs might, by touching off an unending chain of exploding atoms in the planet's crust, convert the earth into a fiery furnace are scouted. But there is distinguished support for the belief that the self-perpetuating chain of exploding atoms can, if it ever got started, be made subject to shields or controls. In 1939, Dr. Frederick Joliot, Nobel Prize winner who married Irene Curie, daughter of radium's discoverer, told a Paris audience that addition of the metal cadmium to uranium offered hope of such control. "This cadmium absorbent," he said, "affords a method for slowing down the activity in a somewhat automatic manner."

**L**ET us forget the possibility of dangers, for they are few, and go on a bit about the new discovery. For the past twenty-five years physicists in laboratories all over the world have been making an intensive study of atoms. For example, consider a device that was used by Professor Harrison at the Stanford physics laboratory as long as twenty years ago. When any substance is heated hot enough it gives off light. Light waves have energy. The brighter the light, the more energy light waves have. Therefore if it were possible to heat a substance to, say, 25,000 degrees centigrade, even for a short time, it would give forth an extremely bright light because the sun in its outer reaches would hardly be better than 25,000 degrees centigrade.

Mathematics is the fundamental science of physics and just as we can figure the power of everyday household appliances with meters, scientists can calculate the energies of the minute solar systems that atoms have been compared to.

When the speed, size, and electric charges of atoms were put into an equation, science knew for sure that internal atomic force was astounding even in one atom. (Remember a little diamond is just as hard as a big one.) Atoms are so small that very great numbers occupy a minute space. Therefore, when the great pressure of large numbers is released at once, the power seems all out of proportion to the weight of material used.

**I**T is known that after a period of a couple of thousand years a given mass of radium would be a little less than half its original size and weight due to the fact that the atoms have ac-

## PUBLIC UTILITIES FORTNIGHTLY

tually disintegrated in that time. Also it is known that the amount of energy given off by these atoms in that length of time would be almost inconceivable compared to any other form of energy production. To give you some idea of this, consider that when enough hydrogen to form one gram of water is used up, 38,000 calories of heat are liberated. This is the greatest possible chemical energy from combustion or explosion by itself but is just a tiny "peewee" compared to atomic energy because by the emanation of one gram of atomic emission, 25,000,000,000 calories of heat are liberated!

An atomic "explosion" is a matter of reaction. That means the splitting of one atom causes another to break up.

It is during the fission, or breaking down, of uranium that plutonium is produced. It sounds simple, but it took the government, coupled with some help in Great Britain, four years to accomplish the feat—plus one of the mightiest war plants, at Hanford, Washington.

What exactly is an atomic "explosion"?

If you were asked how many states of matter there are, you'd quickly answer three: solid, liquid, and gas. Before the days of atomic research this would have been correct, but not now.

**T**HE sun is the biggest bit of matter in the solar system, weighs so much, attracts the earth enough to hold it in its orbit; and yet there is neither solid, liquid, nor gas in it except its outer reaches, where the atoms settle down to form the gas. There was simply no way at all to explain the action of the sun a very few years ago.

The sun is not a fiery mass of hot gases. It is a seething mass of atomic energy where the action that goes on in the atomic bomb for a fraction of a second goes on all the time. The space between the sun and other members of the solar system is a vacuum. It is a good thing that is so because if there was a material connection by an atmosphere of gas between us and the sun, the earth would be shattered by sound and fury from which we are now insulated.

Unfortunately for anything that may be near when an atomic bomb goes off, there is a material connection and so there is no kind of protection at all possible against it.

To attempt an understanding let us divide the active area into zones.

At first, there is not any explosion at all in the ordinary sense.

**Z**ONE one is the atomic mass of the bomb. When the uranium atoms are split by the secret trick our scien-



**Q**"WHEN the speed, size, and electric charges of atoms were put into an equation, science knew for sure that internal atomic force was astounding even in one atom. (Remember a little diamond is just as hard as a big one.) Atoms are so small that very great numbers occupy a minute space. Therefore, when the great pressure of large numbers is released at once, the power seems all out of proportion to the weight of material used."

## THE POWER OF THE ATOM

tists have discovered, the area immediately becomes really and truly a miniature sun, because in zone one the material of the bomb becomes suddenly not a material mass in the ordinary sense of either being solid, liquid, or gas, but in reality pure atomic energy. There is not even heat as we know heat, for heat is molecular motion and in zone one there are no molecules. There are not even atoms, since in the core of zone one the atoms have disappeared from the material world as we recognize material.

In the "explosion" of the atomic bomb—or atomic power, if you will—the first effect is a large cleared space of pure energy. When this zone has expanded enough, the energy will have become somewhat diluted so that atoms and molecules can remain as such and in turn become possessed of energies that are more understandable to us. Is it any wonder that all who have tried to observe the effects of this bomb have run up against the difficulty of finding words to describe such things as have never before been seen?

Perhaps we have dwelt a little too long on the scientific aspects of the atom. The more you ponder the thing the more baffling it becomes. So let us look at the industrial angles. And here there are open possibilities so vast as to be literally blinding.

PRESIDENT Truman said in his talk about the atom bomb: "Atomic energy may in the future supplement the power that now comes from coal, oil, and falling water . . . but at present it cannot be produced on a basis to compete with them commercially."

Before that time comes, however, there must be a long period of research.

Atom power is new. Its peculiar uses have thus far been slanted toward war needs. In simple terms, two fundamental problems face scientists in bringing the atom age to its highest usefulness. First, they must learn to govern the release of atomic energy so that it will produce heat at a temperature practicable for use in conventional power plants, or develop unconventional power plants that will use it as it can be released.

Secondly, they must reduce the cost of this operation so that such energy is produced more cheaply than from present sources.

This is the same hurdle science has faced with the discovery of every new substance or process since the beginning of time. The answer has been found before; there is little reason to believe it will not be found again.

When all the problems are solved, the most fantastic imaginings of the Sunday supplements will be commonplaces, and perhaps perpetual motion will be an accomplished fact.

BEFORE the blackout of war covered atomic research, scientists had told something of the possibilities of what they were doing. They said that a single 5- or 10-pound chunk of U-235 uranium, activated merely by contact with cold water, could theoretically drive an ocean liner about the world indefinitely; that it would possess the power output of 25,000,000 to 50,000,000 tons of coal or 15,000,000 to 30,000,000 gallons of gasoline.

A chunk of similar size might well supply the power used by a great metropolis for an entire year.

The scientists foresaw an automobile with a sealed fuel tank that would



### Atomic Explosion

**A**n atomic 'explosion' is a matter of reaction. That means the splitting of one atom causes another to break up. It is during the fission, or breaking down, of uranium that plutonium is produced. It sounds simple, but it took the government, coupled with some help in Great Britain, four years to accomplish the feat—plus one of the mightiest war plants, at Hanford, Washington."

never need replenishing—for the manufacturer could put in enough atomic fuel to last the lifetime of the car.

These things sound almost ridiculous at this time, yet the announcement of Marconi's first radio flash sounded even more ridiculous and impossible.

Steam in unlimited quantities can be produced from uranium by a very simple process: A tiny chunk of the element is merely dropped into a sealed tank and cold water turned in. The water almost instantly becomes steam—and that tiny chunk of uranium will continue to make steam so long as the water is kept running into the tank. To shut it off, you simply cut off the water supply. Could anything be easier?

**T**HIS opens up vast possibilities for steam power, a form of energy long accepted as good. Steam automobiles failed in the past because of the expense and complications arising out

of the steam-producing plants. In some cases it cost more to keep up a head of steam than gasoline, and the machinery was so complicated that it required the expert knowledge of engineers to keep "things" moving.

If a steam car were built utilizing atomic energy to produce steam, the power plant might easily weigh only a few pounds, yet develop enormous horsepower and speed. Several auto manufacturers are working on steam cars and who knows what miracle vehicles will result?

We can visualize cities of all sizes with central steam-power plants capable of heating every building at a cost so low as to be insignificant.

Yes, because of atomic power, steam may really come into its own.

So much for steam-atomic power. The picture of atom power itself is so incredible that it defies explanation. This is because, when trying to compare known power sources with the horsepower contained in a minute

## THE POWER OF THE ATOM

quantity of atomic energy, we are confronted with figures beyond our realm. Using existing power statistics, for example, let us say that 2 pounds of engine weight produce 1 horsepower. With atomic energy, those 2 pounds of engine weight might conceivably produce 100,000 horsepower!

We have only to check figures released on the atomic bomb to have this pointed out. President Truman told us that the atomic bomb packed a punch equivalent to that normally delivered by 2,000 B-29's. It dwarfed by 2,000 times the blast power of the British "grand slam" bomb, which weighed approximately 11 tons!

As a matter of fact, however, atomic power will not be determined by what physicists can deliver in the way of adapting it to everyday use, but by the speed with which the social and industrial life of nations can be adapted to its use. The thinking of men changes slowly, and men learn but stubbornly. In an industrial country like the United States we have already enough energy to change completely our social structure. So far the thinking of men has not been willing to admit it.

At the beginning of our industrial power age, we were promised that labor-saving devices would take the drudgery out of life. Instead of doing that we created the main problem of the world — technological unemployment.

This was a result of the ability of great amounts of machine power to replace human muscles, and at the same time our failure to find anything for human beings to do except to use their muscles, and added to this our stubborn unwillingness to find ways of

sharing our wealth and blessings with the world.

AGAIN we are clapping our hands with joy to contemplate this new power age when each worker will have to put in only about three or four hours each week. This is not the blessing it seems, because we still insist that each man who has a job put in a full week's work, even though 100 men sit in idleness and live off a dole.

The impact of the atomic bomb may be great enough to break the grip of Fascist-minded man. The democratic-minded believe that the floodgates of nature should be opened and every human being given as high a standard of living as possible. With unlimited power available, this will be possible if those who so want to use it can control it.

The almost limitless possibilities opened up by atomic power may be great enough to force stubborn men to admit that the doctrine of scarcity will be untenable from now on. Great social forces will gather now to control atomic power. Not so much to control its use in a bomb as to control its use to upset the economy of the world. The misuse of this power can literally destroy the world in more ways than one.

Where shall we find the raw materials with which to create our atomic power?

AGAIN the by-product, until now, of the extraction of radium from pitchblende or carnotite, uranium is widely distributed. The most important European deposits of pitchblende are in Czechoslovakia, but until recently rich deposits in the Belgian Congo dominated the radium and uranium markets.

## PUBLIC UTILITIES FORTNIGHTLY

There are small deposits of carnotite in England, Russia, and Portugal.

We are fortunate in having some deposits of carnotite in the sandstones of Utah and Colorado. Some years ago a considerable deposit was discovered in California's Mojave Desert. In 1936, a gigantic pitchblende deposit was found at the Great Bear lake on the Arctic Circle of Canada.

In 1939, shipments of this ore, 70 per cent of which consists of uranium oxide, averaged 125 tons a day. Not only must this uranium be controlled but, just in case a substitute is found, any suspect nations will have to be kept under surveillance to prevent the building of atom bomb plants.

But this should be less difficult than it sounds if huge plants, as now indicated, are required.

When someone suggested science should take a holiday because of the danger that it would perfect weapons which would destroy man, Dr. Robert A. Millikan once retorted that it was

much more likely that such terrible mechanisms would bring perpetual peace by making war unthinkable.

**V**IEWS of scientists differ as to what boons atomic power will bring in a peaceful world, but the majority agree that while applications will prove amazing they will supplement rather than supplant present power systems for some time to come.

Before you dash to your broker and sell your oil or coal stock short recall that after almost twenty years of intensive effort television is still a struggling infant. The present odds are that oil, coal, and electricity will remain our chief power sources for a lengthy period.

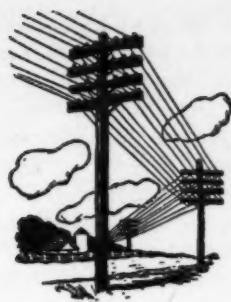
Security reasons apparently preclude any specific amplification of the bare statement that atomic power "is far and away the greatest discovery of all time and eventually will make it much more interesting to be a man and be alive."



### Distribution Costs Government As Much As Industry

**A** QUART of milk costs 6 or 7 cents on the farm, and two or three times as much in the grocer's or at the kitchen door. A ton of coal costs three or four times as much in the cellar as it does at the pit mouth. A tank costs so much at the factory in Detroit or Flint and so much at Stalingrad a year ago, or on the Rumanian front.

Let us not lose ourselves in ideological discussions about the rapacity of middlemen. Actually the differential in the cost of milk, coal, and tanks is the cost of transportation from the cow to the apartment house door, from the mine to the coal cellar, from the American tank factory ten or fifteen thousand miles to the Russian front, at Stalingrad, in the winter of 1943, and on the Prut river later.



## Dropping an Old Spanish Custom

Japan's surrender will start the Southern California Edison Company on a changeover from 50 to 60 cycles. It will cost above \$20,000,000 to eliminate the country's last large area of other-than-60, but war has forced the change.

By JAMES H. COLLINS

JUST how so prideful, so modernistic a region as southern California ever got onto 50 cycles, and is still changing over, is a mystery to many residents.

"It must be an old Spanish custom," suggested an engineer.

Anyway, the whole city area of Los Angeles with its municipally operated power was on 50 until just before the war, and was undoubtedly lucky in changing over. There was then no dream of war, but it has greatly simplified war work.

And now the Southern California Edison Company, with the power business outside the city and all around as far as Santa Barbara, Riverside, Hanford, San Juan de Capistrano, has been given state railroad commission per-

mission to change over its 50-cycle service.

This is said to be the last big block of other-than-60-cycle utility service remaining in the United States. Twelve years ago, when the Los Angeles engineers surveyed the country, they found it 95.1 per cent on 60-cycle, 2.83 per cent on 50, and about 2 per cent on everything from 133 cycles to very low. All the sizable 50 was in California.

How southern California got that way is rather interesting. W. C. Mullendore, president of Southern California Edison, took pains to go back into history.

It wasn't an old Spanish custom, for the Dons started out on good middle-of-the-road 60 cycles. Los Angeles got

## PUBLIC UTILITIES FORTNIGHTLY

its first arc lighting plant in 1882, developed 135 cycles, and later, in the last century, changed to 60. San Diego, Santa Barbara, San Bernardino, and Imperial Valley developed at 60.

Those were the days of isolated electric plants—no water-power current generated afar, no networks for the exchange of power. Each town got itself a lighting plant and picked itself a frequency. All over the world polyphase was being tinkered with to find the best frequency, and, as power load developed, the thing became almost an ideology. Below 40, which was a splendid truck horse for power, the incandescent lamps would flicker, and above 60 you had a light running horse for your power job. Engineers consider 133 best for lighting, 25 for power—the Panama canal operates its gates with 25-cycle current.

The upshot was that most of the United States standardized at 60, the happy medium, while the rest of the world runs around 50 cycles.

**I**N southern California, the 50-cycle serpent got a good foothold, as water-power projects were developed. Edison's Kern River No. 1 was set at 50. When Los Angeles went up into the Owen valley for more water, the electrical development was set at 50 to conform to surrounding frequencies. When Edison built a big stand-by steam plant at Long Beach, it was 50 and, in 1918, when that company acquired the Santa Barbara system, it converted from 60 to 50. Consolidations of local utilities which were made thirty years ago, led to a lot of standardizing at 50 cycles.

And so the thing grew with the growth of the area. From 1920 to

1935, population of the city rose from 600,000 to 1,300,000. Factories began to thrive, the electrical load to zoom—but every merchant who bought a motor, and every factory that installed direct-driven machinery, had to specify 50 cycles. When John Citizen began to buy electric clocks, every manufacturer in the country heard about it—if he wanted to seek a market in Los Angeles, he would have to make a 50-cycle clock, and at that time it was almost like making an entirely new product.

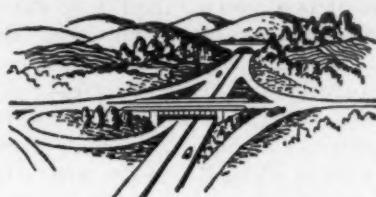
Boulder dam started things. It was originally designed for 50 cycles to serve the Los Angeles area, except for two small 60-cycle generators to serve a power company on that frequency. But as Los Angeles began to plan on Boulder dam power and to take over the 60-cycle system of the Los Angeles Gas & Electric Company, the question of "Which frequency—50 or 60?" arose. After engineering and economic studies, it was decided to convert to 60, and in 1936 the city changeover was effected.

**T**HE Edison changeover is planned for a period of three years, because the company has both 50- and 60-cycle current with which to make adjustments.

The Los Angeles municipal system had only 50-cycle current, and therefore finished the job in a little more than four months, including the equipment in the Edison building, downtown office structure of the corporation, which is a customer of the municipal system.

Such a changeover is a big adventure in customer relations because every customer has to be visited for an inventory of equipment to be modified, and

## DROPPING AN OLD SPANISH CUSTOM



### Growth of Population in Southern California

**S**OUTHERN California has always been a fluid sort of place for population, because one in every ten tourists comes back to live and, when times are good, the population grows. But if times turn bad, then many residents go elsewhere—the number of electric and gas meters in service has long been a barometer of prosperity, or the other thing."

all sorts of horse trades worked out for old equipment.

More than 250,000 alterations were made in customer equipment during the city's changeover, 197,000 of them domestic, 36,000 commercial, and 17,000 power.

Electricians visited the customer, gave him a control number (which he probably never saw), and on a job control card wrote a working description of every piece of equipment that would have to be altered.

In a home there might be several 50-cycle clocks. The customer was given the address of a station that would alter them to 60 cycles, and took them in. Perhaps all but one clock was readied for the new frequency, while the one left on 50 told time until the night that everybody went to bed on 50, and woke to 60 cycles. More than 100,000 clocks were altered.

Some domestic motors were adjustable to either 50 or 60. Others had to be replaced. More than 60,000 were

altered or replaced by electricians who did most of the work in the customer's home.

On commercial and power equipment, each machine was described as to make, capacity, type, location, accessibility, what was to be done to transform it to the new frequency.

**T**HE age of a piece of equipment generally involved an arrangement with the customer, for the power bureau to rewind, or pay so much on a new unit. Sometimes the customer decided on rewinding, and then changed his mind. The control card showed, at every stage of the work, how much had been done, what material had been ordered, what would be paid by the bureau toward a new unit.

A card system is of the utmost value in doing such work economically. After the customer inventory had been carefully made for the benefit of the engineers, the latter wrote specifications for each machine.

## PUBLIC UTILITIES FORTNIGHTLY

First, it was assigned to one of three categories: 1. Equipment that would run on either 50 or 60, and could be changed in advance. 2. Equipment that would not run satisfactorily on 60 without alterations and to be changed on the eve of the changeover. 3. Equipment that would have to be changed simultaneously with the changeover.

Then, the engineers listed the new material and parts to be ordered for each job, and they were purchased. Work was assigned to shops, if it had to be done off the customer's premises. Much of the electrical work was done by contract with electrical concerns. A glance at the control card for the X oil refinery, or Mrs. Jones' washing machine, showed how far everything had gone.

It was a big rush job that employed 2,683 people, in a 10-story office building, from August 16 to December 27, 1936.

But the number of appliances needing changes doesn't seem as large as would be expected in a thoroughly electrified city of 1,300,000 people.

The motors ran to about 60,000 changed over, and 45,000 old ones on which some cost was allowed toward the purchase of new. Out of 68,000 washers, 5,777 were changed; 58,000 refrigerators, 7,085 changed; sundry appliances, 7,000 changed out of about 8,400. Field surveys made, 57,573. Changes made by the bureau, 41,222; by contractors, 9,414. Job control numbers assigned, 48,656.

**T**HE Southern California Edison changeover is a much bigger job, but by spreading it over three years, the surveying and planning can be done by regular personnel. Originally, it was

planned for five years, beginning after the Pacific war ended and winding up about 1950. But the new schedule should bring completion in 1948.

Various types of appliances and equipment call for different treatment.

Heaters of practically all types run just as well on 60 as they did on 50, so no changeover is needed for electric ranges, water heaters, waffle irons, coffee-makers, roasters, electric irons, space heaters.

Incandescent lamps operate just as well on either cycle, but fluorescent lights need 60-cycle ballasts.

Electric mixers, vacuum cleaners, sewing machines, and small fans have universal motors, and will run on either 50 or 60, or even on direct current.

Clocks are a complete changeover, including those built into cooking ranges using either current or gas. If built for 50 cycles, they run an hour ahead every five hours on 60 cycles. Some clocks are exchanged; others given a simple rotor replacement.

Washing machines need mechanical changes in gears or pulleys, if changed at all. Most of them run a little faster on 60 cycles, and there may be some grumbling, especially in spinner dryers.

A gear change quiets them — or quiets the customer. Ironers simply roll faster, which the customer may like.

**P**HONOGRAPH motors generally need changes, but radio sets play just as well on 50 or 60. Motor-driven electric shavers run a little faster on 60 and need no adjustment, but the old vibrator type has to have new vibrating elements. Some dishwashers require minor changes, while others run just as well.

## DROPPING AN OLD SPANISH CUSTOM

What the proverb says about being half slave, half free, applies to southern California, now that Los Angeles has deserted 50 cycles—or the predicament of having one foot on the dock, the other in the moving boat.

So long as the city was on 50, there was a large block of customers for that frequency—larger than in many states. They could order 50-cycle equipment and, what is more important, could move around freely in the area.

But with half the customers on 50 after the city changeover, the situation became complicated. Equipment manufacturers did not have as large a market, and sometimes premiums were charged for the odd frequency. People could not move from the city to the country, or the other way, without alterations in even household electrical equipment—and Los Angeles is a motley town, with islands of county territory in the city limits. In moving factories or equipping chain stores, there were increasing difficulties. The boat kept getting further from the dock.

Southern California has always been a fluid sort of place for population, because one in every ten tourists comes back to live and, when times are good, the population grows. But if times turn bad, then many residents go elsewhere—the number of electric and gas meters in service has long been a barometer of prosperity, or the other thing.

of which succeed. Climate is the lure. A small company may have a big company engineer, or chemist, or manager, because the man has been compelled to leave a lucrative job elsewhere and move to California for the climate.

All this activity involves electrical equipment, and the war has multiplied it, so that now mass industries are beginning to appear. The discrepancy in frequencies is making more trouble, and will continue to do so. War spotlighted the situation and, at the same time, made it impossible to do anything toward correction until hostilities ceased.

But the change becomes part of every southern California postwar plan, because in ordering new equipment for reconversion, business concerns would have to specify frequencies. Edison therefore planned its own conversion so that all this new equipment could be ordered on the standard frequency. Also, the war has developed new frequency-sensitive equipment.

The total cost of the conversion is estimated at more than \$20,000,000, of which some \$5,000,000 will be engineering and other company costs, and more than \$15,000,000 the cost of adapting customers' equipment. The company plans to pay most of these costs, but the railroad commission will maintain a "continuing jurisdiction" over the work, to settle questions that arise where the customer desires to replace old equipment, and questions that arise over company allowances on the new. The commission evidently thought that such decisions made as problems arise would be fairer to the public and also the company, than if governed by general rules laid down in advance.

**N**ot only the tourists come in and go away to come back, but industries as well. Men come from other states with experience as merchants, manufacturers, executives, technologists, and start small enterprises, many



## Government Utility Happenings

PRESIDENT Truman's recent message to Congress has resulted in some question as to whether he is actually prepared to go down the line on the TVA pattern of public power and river development projects. He gave unstinted praise to the accomplishments of the Tennessee Valley Authority. But he also referred, in a commendatory fashion, to the regular reclamation work of the government. Last spring, of course, President Truman openly went on record as favoring the "authority type" of development for the Missouri river. But in view of the rivalry known to exist in the government between the Interior Army faction of public power and river development advocates and the so-called "authority" or TVA-type faction, some observers were inclined to see in the President's cautious remark an attempt to avoid making a clean-cut issue of the matter just at present. The text of the President's remarks dealing with public works generally was as follows:

During the war years we have expended our resources—both human and natural—without stint. We have thrown into the battle for freedom everything we had.

Thousands of our finest young men—our best human resources—have given their lives. Additional thousands have been injured so that they may not be able to realize their full promise. The education of millions of young men and young women has been disrupted. At best, the nation will be deprived of the full benefit of their services as scientists, doctors, technicians, lawyers, and educators for three to five years, or even longer, while they complete the preparation which the necessities of war interrupted.

The depletion of our natural resources is even more startling. We have torn from the earth copper, petroleum, iron ore, tungsten, and every other mineral required to fight a war, without regard to our future supplies. We have taken what we needed. We were

not able to, and we did not, take account tomorrow.

At the same time, our splendid prewar program to build up our national resources was sharply halted. The diligent and constant search for additional deposits of minerals was almost abandoned in favor of frantic effort to discover and make possible the production of the materials of war.

The long-range programs to conserve the precious inches of topsoil which, in many parts of the country, lie between plenty and poverty were necessarily interrupted. We had neither the man power nor the materials to spare for projects to prevent the ravages of floods which constantly despoil our land. We had neither the men nor the facilities to continue a large-scale program of reclaiming land and of bringing new land into cultivation.

With a few exceptions, we were forced to suspend the program to which this nation committed of harnessing the waters of our great rivers so that they may become vehicles of commerce, beneficent producers of cheap electric power, and servants of the nation instead of instruments of destruction.

In brief, although during this war this nation has reached the apex of its power—peak of greatness and might which the world had never seen—our national capital account has greatly suffered. We must proceed with all possible diligence not merely to restore these depleted resources to their prewar standards, but to make them greater and richer than ever before.

We must make a diligent effort to discover new deposits of the precious and indispensable minerals upon which our national life is founded.

We must develop for the use of industry new technologies so that the vast deposits of low-grade ores that have not heretofore been considered usable may be put to work for the good of all of us.

We should build and improve our roads—the arteries of commerce; we must harness our streams for the general welfare; we must rebuild and reclaim our land; we must protect and restore our forests.

This is not only to provide men and women with work, it is to assure to the nation the very basis of its life. It is to play the pa-

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of a good businessman who insists carefully on maintaining and rebuilding his plant and machinery.

We know that by the investment of Federal funds we can, within the limits of our own nation, provide for our citizens new frontiers—new territories for the development of industry, agriculture, and commerce.

We have before us the example of the Tennessee Valley Authority, which has inspired regional resource development throughout the entire world.

We know that we have programs, carefully considered and extensively debated, for regional development of the Columbia river in the great Northwest, the Missouri river, the Central valley of California, and the Arkansas river.

In the Columbia valley the first major step has been completed for the reclamation of barren land and the production of enormous quantities of power. The waters of the Missouri and the Arkansas and the rivers of California can be put to work to serve the national interest in a similar fashion.

If these rivers remain scourges of our nation it is only because we do not have the prudence to harness them for the benefit of our people. If there are among us for any period of time farmers who do not farm because there is no suitable land available to them, workers who do not work because there is no labor for their hands, we have only ourselves to blame so long as we fail to make available to them the opportunities before our very eyes.

I hope that the Congress will proceed as rapidly as possible to authorize regional development of the natural resources of our great river valleys.

It should be unnecessary to say that the conservation and development of the national plant must proceed according to an intelligent and coordinated design. The watersheds of this nation are not utterly independent, one of the other: our irreplaceable wealth of minerals, land, and timber is not composed of segments which can effectively be dealt with separately. Any program of public works must have as its unifying purpose the greatest possible contribution to the wealth of the nation and to the wealth-producing capability of the nation.

It is necessary that we proceed as speedily as possible to set up machinery to make an inventory of our national wealth and our basic resources, and to test the suitability of plans and proposals for public works in light of this purpose. An agency of this sort could provide us with consistent direction toward the goal of rehabilitation and improvement of our basic national resources.

**S**HORTAGES of materials and man power made it necessary in the interests of the war effort to suspend many public works

which might otherwise have been undertaken. Now that materials and man power will become more plentiful, we should be prepared to undertake a program of useful public works, not only to improve the physical plant of the United States but to provide employment to great masses of our citizens when private industry cannot do so. Only such public works should now be undertaken, however, as will not compete with the use of materials and man power by private industry. Plans for other public works should be perfected and put in reserve.

In this connection I have several recommendations:

During the war the construction of Federal public works has been restricted to those necessary for national defense and the prosecution of the war. Projects which normally would have been constructed were deferred, and a large backlog of needed construction has accumulated. Plans for some of these projects—specifically those relating to reclamation, rivers and harbors, flood control, and the conservation of our natural resources—are now ready, and their construction can go forward when funds are provided and materials and man power are available without competing with private industry. Plans for other Federal projects are being prepared through the use of funds wisely appropriated by the Congress for advance preparation. Additional funds are needed for this purpose, and I urge that the Congress provide them....

States and local governments should be encouraged to construct useful public works of the types that must necessarily supplement and go along with the private construction of homes and industrial facilities. If private construction is to move forward at a rapid rate, it is vitally important that local governments promptly proceed with the construction of such facilities as streets, sewers, water supply, hospitals, airports, schools, and other necessary public facilities. Such projects should be undertaken at this time where they supplement and encourage private construction, not where they compete with it for man power and materials.

The Congress has already authorized under Title V of the War Mobilization and Reconversion Act of 1944 appropriations for advances of Federal funds to state and local governments to assist them in the preparation of detailed drawings and specifications for their public works. The appropriation thus far made is entirely inadequate and I shall request additional funds in order to speed up this important activity during the reconversion period.

The majority of state and local governments are awaiting a decision concerning Federal assistance. In order to get needed public facilities started promptly which do not compete with private construction, I recommend that the Congress give early consid-

## PUBLIC UTILITIES FORTNIGHTLY

eration to grants for such public works under conditions that will insure that each level of government, Federal, state, and local, shall make its appropriate contribution. . . .

Programs of internal improvements of a public character—Federal, state, and local—must preserve competitive bidding, guarantee collective bargaining and good wages for labor, utilize the skills of our returned veterans to the fullest extent, and effectively prevent discrimination because of race, creed, or color.

**C**OMMENTING on President Truman's speech, the well-known columnist, Marquis Childs, writing in *The Washington Post*, stated:

President Truman can hardly have forgotten that we had just such an agency—the National Resources Planning Board. Congress, in a fit of economy that was in reality aimed at anything as New Dealish as planning, abolished the board.

Before it was abolished, however, it had prepared extensive reports of our national resources and what our people were doing with those resources. Such an agency was badly needed. It is still, as President Truman points out, a necessity. But there is no need to repeat work already done.

In the same section of his message he expresses the "hope" that Congress will "proceed as rapidly as possible to authorize regional development of the natural resources of our great river valleys." Whether this means the TVA pattern applied to the other great river systems is not clear since elsewhere the President uses language that seems to cast doubt on the TVA concept of regional autonomy.

The President's message omitted reference to the St. Lawrence seaway project, but Mr. Truman told a late afternoon press conference on September 6th that he would make a statement in a few days on plans for completion of that project. President Truman had previously—on August 30th—told a press conference in Washington that he would recommend to Congress that it enact legislation necessary to proceed with the much-discussed Great Lakes and St. Lawrence river proposal.

Several bills relating to development of the seaway are now before Congress. One of them was introduced by Senator William Langer, Republican of North Dakota, and another by Representative William A. Pittenger, Republican of Minnesota. Similar measures have been

introduced at previous sessions of Congress.

The project, intended to make the waters of the St. Lawrence navigable for ocean-going vessels, would cost an estimated \$421,000,000. It would increase the tonnage capacity of the river and lakes by about 20,000,000 tons annually, according to supporters of the development.

**T**HE President's announced intention of backing the seaway legislation marked another step in the long fight by advocates of the river development plan. An initial step was taken in March, 1941, when the United States and Canada concluded an agreement relating to the joint construction of the seaway and power project. Provisions of the agreement, however, remained contingent upon favorable action by legislatures of the two countries.

Plans called for construction of dams and locks on the upper St. Lawrence river between Lake Ontario and Montreal, and the improvement of other navigation facilities at several points. The major construction would take place in a 48-mile stretch of the river known as the International Rapids section.

The agreement provided for completion of a deep water artery from Montreal to the head of the Great Lakes, a distance of approximately 1,300 miles.

Earlier this year, some question developed as to whether the agreement really constituted a treaty, requiring a two-thirds vote of approval by the Senate for ratification (as distinguished from a simple majority vote of approval by both houses). The Senate Commerce Committee held hearings on the question last spring. The issue was not finally settled, but it appeared at that time that the Senate would insist on its treaty-making prerogatives.

\* \* \* \*

**T**HE *New York Times* reports that advocates of economy in government are viewing favorably a proposed amendment to the pending \$580,000,000 Rural Electrification Administration ap-

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propriation designed to "stretch" the Federal electrification dollar by including other types of electrification with power lines. Specifically, the backers of the amendment are asking that individual electric generating plants, such as wind-driven, gasoline, and Diesel-powered plants be used to supplement the power line in sparsely settled areas such as many of those west of the Mississippi river.

At present the REA is authorized to finance only power-line electrification, but backers of the proposed amendment point to the vast areas in the West where more than 1,000,000 farms and ranch families average only 1.1 families a mile, compared with 2.5 to 3 families a mile, which REA has in the past regarded as the minimum for power-line electrification.

The individual electric generating plant is "tailor-made" for the sparsely settled area, backers of the proposed amendment maintain, and by authorizing REA to include financing of such plants Congress can provide electricity for far more isolated farms than the present arrangement.

\* \* \* \*

THE \$59,000,000 Buckingham Landing dam project apparently was slated to "die a borning" as more than 400 persons from 5 counties voiced strong opposition to its construction at a public hearing held in Sumter, South Carolina, last month.

At a meeting called by Colonel Carl R. Shaw, United States district engineer, to test public sentiment on the proposed project, no voice was raised in favor of the huge dam. A dozen prominent citizens of the state spoke against the project in the morning session of the day-long hearing, and when a rising vote was called for, virtually the entire audience of more than 400 persons rose to denote opposition.

State Forester C. H. Flory led a group of speakers protesting the dam's erection on the grounds that it would flood 189,000 acres of valuable timberland.

Others speaking against construction

of the dam, which would be located at the junction of the Congaree, Santee, and Wateree rivers near Sumter, included: Mayor Edwin B. Boyle, of Sumter; L. O. Funderburke, of Kershaw; Representative R. M. Kennedy, of Camden; J. E. Hendris, of Orangeburg; Henry Savage, of the Lynch River Soil Conservation Association; W. E. Miner, of the Columbia Chamber of Commerce; and a delegation from Lee county.

In their arguments, representatives of these organizations told the Army division engineer that building of the Buckingham Landing dam would:

1. Flood 180,000 acres of land along the Congaree and Wateree rivers, ruining much valuable hardwood timber.
2. Put at least a dozen wood-working and lumbering plants out of business, throwing many persons out of work.
3. Destroy all additional natural resources in the flooded areas.

The Columbia Chamber of Commerce was present to advance arguments favoring the proposed 8-foot-deep channel on the Congaree river connecting Columbia with the Santee reservoir. The Columbia chamber did not argue for the Buckingham project itself, only for completion of an 8-foot channel, either by erection of the dam or by dredging. Main argument favoring this channel was that it would connect Columbia and Charleston by an inland waterway, providing another traffic link between the state's capital and its chief port.

As outlined in the announcement, the hearing was held to give all interested group or individuals the chance to present arguments for or against the Buckingham Landing project.

\* \* \* \*

FUNDS will be requested for the construction of government transmission lines to carry Shasta dam hydroelectric power to Roseville and other northern California municipalities applying for Bureau of Reclamation service, Secretary of the Interior Harold L. Ickes announced on August 31st.

Decision to make this request re-

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sulted, Mr. Ickes explained, from conversations between Bureau of Reclamation representatives and officials of the Pacific Gas and Electric Company, indicating that the company did not intend to enter into an agreement to deliver Shasta power for the bureau over the company's transmission lines. In commenting upon this refusal, Mr. Ickes said:

Our representatives met with responsible Pacific Gas and Electric Company officials on August 22nd to arrange, if possible, for the delivery of Shasta power to the city of Roseville, with which the Bureau of Reclamation made a contract in July after Roseville voted to use the public power. Under the terms of this contract there will be a saving to the city of about 40 per cent in charges for electricity, as compared with rates now paid by the city to the PG&E.

We had some reason to believe that the PG&E would cooperate in making Shasta power available to preferred customers because of the testimony of its president in opposing the construction of government transmission lines before the House and Senate Appropriations subcommittees.

Public bodies and cooperatives are entitled under the Reclamation laws to a preference in the purchase of power produced at Shasta dam. To make that preference effective transmission facilities connecting such preferred customers with Shasta dam are essential.

The refusal of the PG&E to cooperate with the Bureau of Reclamation in effectuating the preference provisions of the Reclamation Law has made it perfectly clear that if Roseville and other municipalities of California which apply for Shasta power are to receive preferences to which they are entitled the government itself will have to build its own lines to deliver its electrical energy.

THE Bureau of Reclamation contract with Roseville was the first to be entered into between the Federal government and a California municipality for the delivery of Shasta power. In 1944 the city of Roseville paid the Pacific Gas and Electric Company \$45,096 for electric current marketed over the city's own distribution system. Had it purchased at the rates agreed upon with the Bureau of Reclamation, the city would have saved more than \$18,000. If transmission lines are provided other cities may obtain similar savings by pur-

chasing power directly from the government.

\* \* \* \*

SENATOR Brien McMahon, Democrat of Connecticut, recently introduced a bill to create a government guardianship for atomic energy. Under the legislation a 6-member board would get this job:

To conserve and restrict the use of atomic energy for the national defense, to prohibit its private exploitation, and to preserve the secret and confidential character of information concerning it.

The board would consist of the Secretaries of War and the Navy, the Attorney General, the chairman of the Federal Power Commission, and two other persons to be appointed by the President.

Board members who do not hold any other government office would receive \$10,000 a year.

Among other things, the measure would provide a 5-year prison term and \$10,000 fine for any person convicted of applying atomic energy in an unauthorized manner or disclosing any information classified by the board as confidential. President Truman, in a statement announcing the first use of the atomic bomb against Hiroshima August 5th, said he would ask Congress to create a similar commission. He added that he would make further recommendations "as to how atomic power can become a powerful and forceful influence toward the maintenance of world peace."

\* \* \* \*

FOR the first time in more than five years, powerhouses at nine TVA dams, closed since June 27, 1940, for security reasons, were reopened to the public September 1st. The public would get its first glimpse inside the hydroelectric plants at Fort Loudoun and Watts Bar below Knoxville on the Tennessee, since both plants were completed during the war. The Watts Bar steam plant will also be open, TVA said.

Effective August 21st, visitors again are also allowed at Bonneville dam, it was recently announced.



## Wire and Wireless Communication

**T**ELEPHONES for everyone who wants them are still months away. In spite of the fact that the Office of War Utilities was one of the first war agencies to preside at its own liquidation, eliminating all but one of its controls over utilities and communications services in less than a week after the capitulation of Japan, actual installation of phones may be eight months to a year away.

Cutbacks of practically 100 per cent in military orders for telephones and other communications equipment have released all manufacturing facilities for production of civilian facilities. However, manpower requirements are the major block to immediate alleviation of the situation.

Production of telephone instruments will be sufficient within the next six weeks to two months to supply all demands, but the actual installation of telephone instruments depends first on acquisition of central control equipment—also somewhat dependent upon manpower—and production and installing of cables.

Estimates made before the end of the Japanese war by the telephone companies placed the date for supplies of sufficient telephones to fill all civilian demand at five to seven months, and for installation of all desired phones at eighteen months. With the large military cutbacks, it is now estimated that all demands will be filled by spring. Several factors enter into this estimate, including the migration of workers from locations where they have been in war production to

other cities to engage in peacetime work. Another element entering into calculations is the reduction in high-salaried workers who previously requested telephones and are no longer interested in paying for them.

The present over-all estimate, based on all these factors, is that anyone who wants a telephone installed in either his home or business will not be able to immediately get one until spring—as far as equipment is concerned—and perhaps not until about a year from now—due to man-power shortages.

\* \* \* \*

**T**HE National Telephone Commission of the National War Labor Board on August 30th moved to dispose as rapidly as possible all pending voluntary applications for approval of wage adjustments following a conference with the Office of Economic Stabilization concerning certain cases involving the question of possible rate relief.

The cases in question are those voluntary applications in which the employer has stated that he has no present intention of seeking rate relief but was reserving the right to include the proposed wage increases as part of the company's expenses in any future proceedings before state and Federal agencies which regulate utility rates.

It was determined that these cases will be considered by the commission in the same light as cases in which an employer stated that he would use the proposed increase as a basis for seeking an increase

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in ceiling price and will be referred to the Office of Economic Stabilization if the commission approves an increase.

Chairman Pearce Davis of the commission emphasized that these cases will be acted on as rapidly as possible.

Pursuant to General Order No. 40, which allows certain voluntary or agreed-upon wage increases to be put into effect without approval under specified conditions, the commission already has returned 102 applications to the parties with a notice that the proposed adjustments did not require approval under the new rules. The applications did not contain the qualifying statement pertaining to possible rate relief.

However, most of the applications, Mr. Davis said, contain the reservation that the wage adjustments may be included as expenses in proceedings before the rate-regulating agencies. These will be acted on and referred to the OES, if an increase is approved, as expeditiously as possible, he said.

General Order No. 40 was issued pursuant to Executive Order 9599 of the President. It provides that voluntary or agreed-upon wage adjustments may be made without approval of the NWLB or any of its agencies, "upon the condition that such increases will not be used in whole or in part as the basis for seeking an increase in price ceilings or for resisting otherwise justifiable reductions in price ceilings, or, in the case of products or services being furnished under contract with a Federal procurement agency, will not increase the cost to the United States."

\* \* \* \*

**A** SHRILL whistle cut the quiet of the Maryland countryside. Five tractors of a cable train shuddered into slow motion. Smoothly, slickly, the cable-placing plow laid to rest an American Telephone and Telegraph Company coaxial cable 3 feet down in the soft earth.

And so began a project capable by next summer of linking District of Columbia homes in a television network with Richmond, Virginia, and Charlotte, North

Carolina. Approval of television tower in Washington has already been granted the Bamberger Broadcasting Service Inc., and the National Broadcasting Company.

In its longest construction program for the current year, AT&T is "plowing in a telephone cable of the new coaxial type along the byways and skirting the highways from Washington down to the North Carolina city.

Besides supplying many long-distance circuits, the new 400-mile cable route when it is completed a year from now will be equipped to transmit the very broad bands of frequencies required for television, according to company officials. They add that along with other coaxial cables—proposed or now under construction—the Washington-Charlotte cable may be a link in future nation-wide television networks.

Regularly scheduled television broadcasts are now being sent out each week from New York, Philadelphia, Schenectady, Chicago, and Hollywood. It would be the function of the coaxial cable to transmit programs from one broadcasting station to another in a distant city. From the broadcasting station, programs are beamed directly to the home.

The Washington-Charlotte cable route which started August 7th at the District line, was recently reported to have reached a point some 25 miles southeast of Route 5.

The plowing-in trailer forms a colorful caravan. Cutting a swath through corn fields, woodland, over back roads, and under streams, it is manned by a foreman and a crew of eight. To bury the cable, a rooter plow first splits a path through roots and rocks; next comes the cable-placing plow and trailer holding the reel of cable, drawn by two tractors. It is this unit, guided by two men, that feeds the cable into the furrow. A final trailer fills in the earth.

\* \* \* \*

**T**HE failure of Congress to do anything about curbing the extraordinary powers of the Federal Communications Commission over the nation's radio-

## WIRE AND WIRELESS COMMUNICATION

broadcasting stations is a very real threat to freedom of speech in America, Lewis Avery, director of broadcast advertising for the National Association of Broadcasters, said recently in Oklahoma City.

Avery, who spoke at a luncheon of the Oklahoma City Chamber of Commerce, junior division, said that while Paul A. Porter, present chairman of the FCC, and President Truman have emphasized firm convictions that radio must enjoy the same freedom of speech as the newspapers, "neither will remain in office forever."

The luncheon was in observance of the twenty-fifth anniversaries of junior chambers of commerce and commercial broadcasting.

Avery said he agreed that, by its very nature, radio must be regulated to some extent by the Federal government, but he asserted that under existing broad powers the FCC, upheld in 1943 by a 5-to-2 Supreme Court decision, is forcing commercial radiobroadcasting "to wage a more complex and dangerous fight" than any other communications media.

Avery described freedom of speech as "the visible and audible sign of all freedoms" and told junior chamber members that "the defense of freedom of speech is the privilege and responsibility, the opportunity and obligation of youth."

"As we grow older," he said, "we instinctively grow less tolerant of freedom of speech—and others. Bitter experience and arduous training have taught us what we believe to be truths. We do not like to have these faiths questioned. We want to cling to what we deem to be established facts."

\* \* \* \*

THE Southern Bell Telephone & Telegraph Company appealed to the courts last month in a move to seek relief from an order by the Tennessee Railroad and Public Utilities Commission directing the firm to drop its rates an estimated \$300,000 a year.

Represented by four attorneys, the company was granted a writ in Davidson Chancery Court, the effect of which will be to stay execution of the commis-

sion's order which was scheduled to become effective November 1st.

Granted July 3rd, the order directed the firm to reduce its rates on intrastate calls to a level within interstate tolls. The company said the reduction would lower gross income an estimated \$300,000 per year.

The firm's attorneys posted bond of \$200,000 pending disposition of the case in chancery court. The case will be decided upon the basis of records which would be sent up from the commission to chancery court. There would be no oral testimony.

The chancellor's decision will be delayed by a 75-day waiting period which must elapse. In the event of dissatisfaction with the decision, either party will have an opportunity to appeal to the Tennessee Supreme Court.

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CLEVELAND motorists soon may be able to telephone homes or offices without getting out of their cars. The Ohio Bell Telephone Company on August 29th announced it had applied to the Federal Communications Commission for permission to operate a radiotelephone station in Cleveland to provide service to various types of motor vehicles. Present plans call for a 250-watt transmitter, connected to the general telephone network.

The application to the FCC requested permission to operate an initial installation of 20 mobile units, including 6 on Ohio Bell automobiles. Installations of others, said F. P. Merrick, division commercial manager of Ohio Bell, would depend upon public demand and availability of equipment.

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THE Federal Communications Commission, which is opposed to the manufacture of two-band FM (frequency modulation) radio receivers for use during the period required for the "switchover" from the present FM place in the spectrum to the higher one assigned for it in the commission's reallocation program, has advised R. C. Cosgrove,

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president of the Radio Manufacturers Association, that it "might" terminate forthwith transmission in the old band should its wishes be disregarded.

FCC Chairman Paul A. Porter wrote to Mr. Cosgrove under date of August 17th, in a letter subsequently made public by the commission, in part as follows:

The only reason that has been advanced for the manufacture of receivers covering the old FM band as well as the new is that by building such receivers demonstrations of FM reception to prospective customers will be possible; this does not appear a valid reason.

We anticipate that very shortly the commission will announce its standards for FM broadcasting in the higher band. As soon as this is done, FM stations will be required to take steps to begin operation in the new band as soon as possible so that by the time receivers are available all stations will be operating in the new band.

Thus it will be possible to demonstrate the operation of the receivers in the band which is to be the permanent home for FM.

Our purpose in permitting an FM station which has moved to the higher band temporarily to continue simultaneous operations in the lower band was simply to prevent the loss of FM service to persons in the community who possess the old-style receivers and who have not yet had an opportunity to convert them or replace them with a new receiver. It is not known how long it will be possible to do this because of the needs of the services which have been assigned to the old FM band. It is the commission's desire to permit this dual transmitting operation as long as it is necessary.

\* \* \* \*

Pope Pius XII, speaking in English, addressed a group of American radio executives at Rome on September 5th. The Pope said:

Like every human invention, the radio can be used as an instrument of evil as well as good. It has been used, it is used to disseminate calumnies, to mislead simple, uninformed folk, to disrupt peace within nations and between nations.

This is an abuse of a gift of God; and it is for the responsible directors, as far as possible, to check and eliminate it.

Let the good accomplished by the radio always outrun the evil until the evil becomes weary and falls by the wayside. Is that too much to hope for? Certainly it is a noble goal, worthy of men's best efforts, and it is our fervent prayer.

He thanked the executives for the

"many courtesies extended by the American broadcasting systems to our Vatican radio station."

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FOR nearly six years, 2,700,000 persons, including thousands of women, have shared the simple secret of the language of radar which, so far as is known, the enemy never was able to break.

This language, used by pilots, navigators, Waafs, Wrens, Auxiliary Territorial Service women, and ground crews involved in the plotting and locating of enemy aircraft or targets, was so simple that the German intelligence presumably considered it mere drivel.

When those operating the radar equipment went on the air with something that sounded like "Heads up, bandit at four angels. Drop it. Pancake and lights," it must have sounded like gibberish to the enemy tuned in on our wave lengths, and yet to those in the air it was English with a definite meaning.

Translated, "heads up" meant that enemy planes had broken through coastal defenses. "Bandit" was a term used for identified aircraft. "Angels" was the measure of feet in thousands; thus "four angels" signified that the foe was seen at 4,000 feet. "Drop it" meant do not attack. The rest of the message instructed the pilot to land, refuel, and rearm. He also was told to touch the button, which would give his recognition signal on the radar instrument.

There were hundreds of other words and phrases completely decipherable, many of which are still on the secret list. For instance, "bogey" was an unidentified enemy aircraft. To "buster" meant to fly at normal speed, but to "gate" meant to fly at maximum speed possible. Allied fighters were called "chickens." "Tally-ho," coming from air to ground, meant that the enemy had been sighted and recognized as hostile, generally followed by a call of "grand slam," meaning that the enemy aircraft had been shot down. When "oranges" were either "sweet" or "sour," the weather was good or bad.

# Financial News and Comment

By OWEN ELY

## *Full Employment Bill Threatens Federal Spending for Power Projects*

THE Murray-Wagner full employment bill introduced last January, endorsed by numerous government leaders, and given a "must" label by President Truman, will if passed represent the perfect flowering of New Deal philosophy. It represents an automatic transfer of powers and responsibilities from the private capitalistic system to the Federal government. If the program is faithfully carried out by Congress, it is difficult to envisage anything but a continuation of heavy taxation, deficit financing, and an ever-mounting Federal debt which will eventually ruin our monetary and banking system.

The bill pays lip service to the private enterprise system, it is true, and directs Congress to remedy current handicaps to private employment. But if immediate improvement is not forthcoming—and it is difficult to speed up industry by legislative fiat—the Federal government is ordered to set up a comprehensive program of new projects, presumably of a construction nature, which would take up the slack of unemployment.

Since heavy taxes plus deficit financing would doubtless be necessary to insure such full employment, private capital would remain badly crippled. Under our present burdensome tax system venture capital can function only on the basis of "small business," through "windfall" methods such as wildcatting for oil, by tax exemption, or by tax evasion and black markets. According to a recent *Saturday Evening Post* editorial, a new venture returning a 50 per cent profit



would return a gain of only about 1 per cent to the man who already has an income of \$101,000; and even the man with \$5,000 income would reap only one-fifth of the profits. There is some compensating advantage, however, in the fact that the Treasury Department will absorb a correspondingly large proportion of any losses encountered. Thus there is some slight motive left to launch new enterprises by those who feel that current losses can be charged off while gains may be "frozen" until some more propitious time for realizing them.

Despite the tax handicap, corporate enterprise may also continue some expansion policies because of competitive factors. It must try to employ idle funds, and does not face as heavy a tax penalty as the stockholders themselves. Despite the crippling effects of the tax system, combined with the attempts of OPA and other government bureaus to whittle down corporate profits while permitting wages to advance, the capital system is perhaps tough enough to "take it" and remain venture minded. Reconversion is proceeding more smoothly than was feared. With even a moderate readjustment of the tax burden there would be no need for the Federal government to take over the entrepreneurial function.

WASHINGTON enthusiasm for the new scheme is bringing forth a flood of propaganda and dubious statistics such as accompanied previous philosophies—for instance, technocracy, the single tax, etc. It is based on the theory that we produced a tremendous national income during the war, and can do the same in peacetime. But it fails to

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take into account that most everyone worked long hours and at high tension during the war; that the work week is now being heavily cut, large-scale strikes resumed, and other "normal" peacetime policies resumed. High-pressure production methods used during the war won't be tolerated by union labor during peacetime, with its "make-work" and "feather-bedding" policies. It is a mistake, therefore, to assume that we can double our 1940 national income merely by act of Congress. We can do so, of course, by the inflationary method of raising wages and prices, but we cannot produce double the volume of goods unless we can persuade people to work as intensively and patriotically as they did under wartime pressure.

Henry Hazlitt in *The New York Times* states:

This drive for the Murray full employment bill can only increase inflationary fears. . . . Former controls over industrial wages are being allowed to lapse . . . but final retail prices are to be held where they are. The patient's fever is being increased, but everything is to be made to look right by holding the thermometer down to normal. It appears probable that the display and sale of new automobiles will now be held up for weeks because of the red tape involved in the complex pricing formula of OPA. If this sort of thing were to grow, the next step, presumably, will be for the sponsors of the Murray Bill to claim that private enterprise has once more failed to provide full employment and to insist that the government step in with more government spending or direct work relief.

One of the arguments advanced to favor the bill by Reconversion Director John W. Snyder is that during the 1930's the country suffered a loss of over \$300,000,000,000 in terms of goods and services that *might* have been produced, and that this amount was greater than the cost of the war. This estimate was apparently based on a chart from Secretary Wallace's new book, "Sixty Million Jobs," in which he has drawn a straight line from the 1929 production level to that of 1942. The actual production figures in intervening years reflect an aggregate "deficit" (below the trend line) of \$350,000,000,000 of lost goods pro-

duction, or 88,000,000 man-years of employment lost.

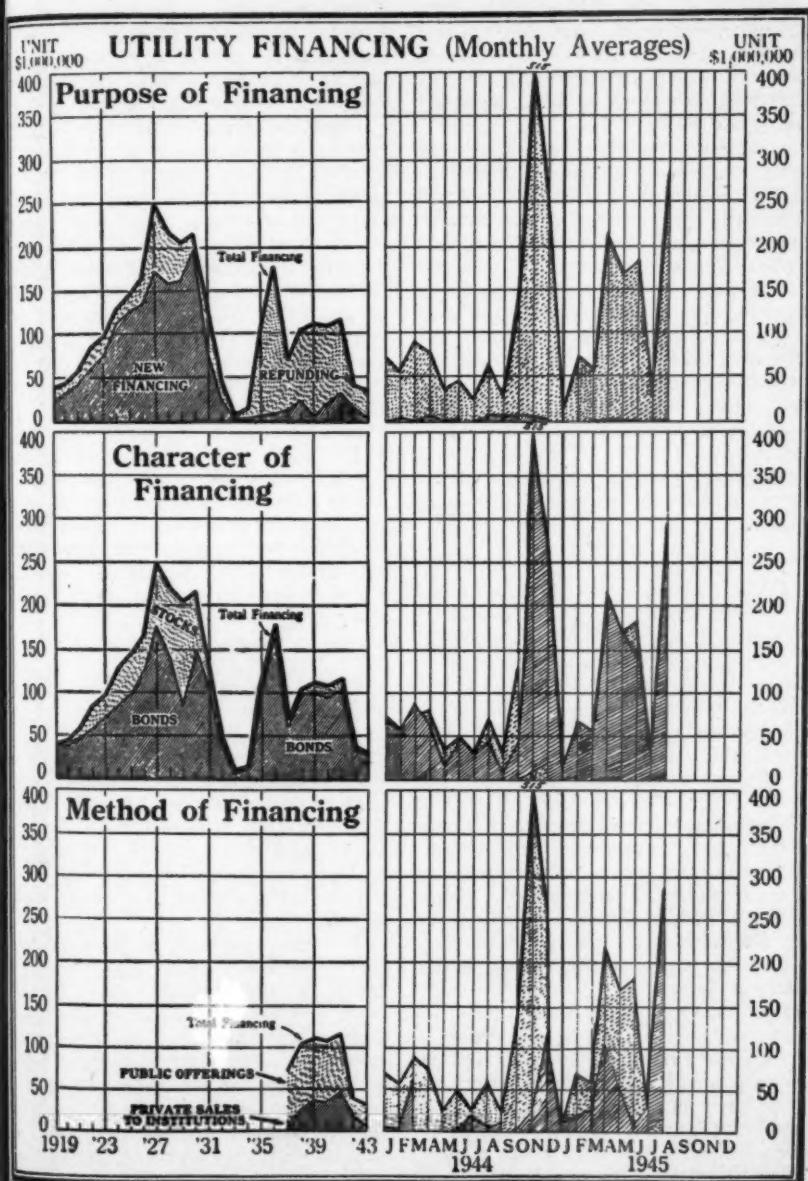
Mr. Wallace has set a goal of \$200,000,000,000 national production and 60,000,000 jobs by 1950. Originally it was perhaps assumed that 60,000,000 jobs was an immediate objective, but this is not the case—we are considering a 5-year plan similar to those which Russia has initiated from time to time.

**T**HUS the 60,000,000 figure is somewhat misleading. According to the "U. S. Statistical Abstract," the number of "gainful workers" (including those unemployed) usually constitutes about 55 per cent of the total population over 14—about 80 per cent of the male population and 25 per cent of the female wish to work. In the forty years, 1900-1940, so far as figures are available, the percentage varied between 52 per cent and 58 per cent. Even during the war our total labor force did not increase much—the estimated civilian labor force in July, 1944, was 55,000,000 and in June, 1945, 53,000,000, compared with about the latter number in 1940; however, some 10,000,000 male workers were temporarily replaced by women, older men, or those previously unemployed.

In 1940, however, even though it was a normally prosperous year, some 2,500,000 were still on public emergency work (with another 1,000,000 on special Federal payrolls but apparently not working), and about 5,000,000 were reported seeking work, so that actually only about 45,000,000 were "regularly employed." The 60,000,000 figure is based on the assumptions that all "gainful workers" should be regularly employed, and that due to increase in population this number will expand to over 60,000,000 by 1950.

Unemployment is an evil we have always had with us in various degrees. The mere fact that it was largely eliminated during wartime doesn't mean that it can be done during peace. Even Mr. Wallace recognizes that there is a good deal of "frictional" unemployment. There is also considerable voluntary unemployment—many people can't find the right

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job at the right pay, and are willing to take an extended vacation, particularly when they can thereby obtain unemployment relief. This kind of unemployment will doubtless be stimulated by the current government proposal for increasing such relief to \$25 a week for twenty-six weeks.

Apparently neither the government nor anyone else has made a competent analysis of abnormal unemployment and its causes. The problem is tied in with that of the business cycle, which thus far has baffled economists. Senator Murray seems to take it for granted that all of the depressions from 1870 to 1930 were caused by private enterprise "left to its own devices"; the influence of unfavorable government policies, such as high tariffs and unsound monetary measures, is treated as if it did not exist. Perhaps \$1,000,000,000 devoted to a thorough study of our economic-political history and setup would be money well spent.

UNDER the proposed bill, the President and his advisers will estimate at the beginning of each year how many unemployed there are likely to be, based on the national income and other factors. Congress will then be requested to explore the immediate causes of such unemployment and pass legislation designed to provide the remedy. If this does not have the desired effect, then Congress is to set up a public works program carried out by private contractors but financed by the Federal government. It is obvious that, unless the government proposes to go into residential building on a gigantic scale (which seems unlikely), the only alternatives are road building, river and harbor improvement, and big hydro power projects.

The huge programs for "valley development" which have recently come to the fore are a reincarnation of New Deal power projects turned down by Congress, such as St. Lawrence, Passamaquoddy, Columbia Valley Authority, seven little TVA's, the "grid" project, the FPC wartime construction program, etc. The results accomplished by

TVA in improving the income of the "submerged" southern population in the Tennessee valley, at the expense of the Federal Treasury, are being exploited as a pattern for similar application of the social service idea to other river valleys regardless of the expense involved.

Doubtless similar benefits would accrue to many municipalities in the areas affected by the proposed schemes, but a substantial amount of the prosperity in these areas would reflect government benefits and bonuses rather than genuine economic progress. There can be little doubt that projects on a scale sufficient to guarantee 60,000,000 jobs (without unemployment) would lead to huge national waste, dwarfing the losses incurred in leaf raking and boondoggling during the 1930's. The system could not be divorced from politics any more than were WPA, PWA, and other agencies which padded the public payrolls and made Uncle Sam a Santa Claus to millions.

It is probable that utility leaders, individually and together with their spokesmen in the Edison Electric Institute and the new National Association of Electric Companies, will forcefully present their views to Congress on this subject.

AT the present time we have an enormous pent-up demand for all types of consumer goods, including electrical appliances. The OPA is attempting to hold prices to prewar levels, with increased costs absorbed either by manufacturers or wholesalers. Congress might well check on this OPA policy and see whether it is going to retard private enterprise in this and similar lines.

If private industry is not obstructed by government red tape and high taxes, it will quickly get into high gear and insure maximum reasonable employment consistent with peacetime conditions. Huge public projects should be reserved for the time a few years hence when the public's demand for cars, houses, washing machines, etc., has been satiated. At that time some special stimulus may be necessary to keep the economic ball rolling. In the meantime, the

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Company	SEC Holding Co. Act Release	Estimated Number	Estimated Page	Years to Pay off	% of New Common Allocated to Pfd. Stocks	Change in Common Equity in Earnings Before (Excluding Consideration of Arrears)	Change in Common Equity in Earnings After Plan
United Light & Power Co. ....	4215	18	15		95%	\$2,585,000	\$309,250
Puget Sound Power & Light Co. ....	4255	23	19½ to 35½		97	523,000 to 949,000	60,000 to 73,000
Southern Colorado Power Co. ....	4501				95		
Virginia Public Service Co. ....	4618	29	10 to 15		91	594,000	108,000
International Utilities Corp. ....	4896	14	26		95.23(c)	185,000(a)	28,800(a)
American Utilities Service Corp. ....	5114	10			95	87,500	36,750
Standard Gas & Elec. Co. ....	5430	58	13+		95	2,621,564	290,000
Commonwealth & Southern Corp. ....	5825	44	5 to 11		85	8,808,000	2,655,000
Peoples Light & Power ....	6000	22	8½		89.5	100,397	36,750
Scranton (proposed plan)							
Before refunding .....				18	98	219,218	10,495
After refunding .....				22	98	454,684	15,204(b)

(a) To class B stock. (b) Sinking funds restrict dividend-paying power for thirty years.  
(c) To preferred and class A stocks.



### Electric-gas Operating Stocks

THE tabulation on page 450 has been increased from 49 stocks (July 5th FORTNIGHTLY, page 48) to 60, by inclusion of one new issue (Lake Superior District Power) and 10 stocks which have rather poor markets—Iowa Public Service, Brockton Edison, Beverly Gas & Electric, Concord Electric, Fall River Electric Light, Holyoke Water Power, Lawrence Gas & Electric, Lowell Electric Light, and New Bedford Gas & Edison Light.

Many of the New England stocks in the list are closely held, and a number of companies are controlled by holding companies with a relatively small proportion of the stock held by the public. However, we have endeavored to make the list as complete as possible in order that the average yield and price-earnings ratio may be based on the fullest available data. It is an interesting coincidence that the averages remain exactly the same as in the previous table. There has been comparatively little variation in utility prices in the past few weeks; utility stocks were not much affected by the break in the rails during mid-August, and at this writing were around their best recent levels, slightly above the July top.

### Security Allocations in One-Stock Recap Plans

AN interesting table of common stock allocations in utility recapitalization plans was prepared by Reis & Chandler, Inc., in the Scranton-Spring Brook Water Case. This is reproduced, with some changes and additions, in the accompanying table. The estimated number of years to pay off preferred stock arrears is based on the expected reasonable earning power, as accepted or determined by the SEC. The percentage of new common stock allocated to the preferred stock does not seem entirely consistent in each case with the estimated number of years required to pay off arrears, but of course there are varying individual circumstances. In general the pattern thus far established is to assign to the preferred 85 to 97 per cent of the new common, depending on the period of years required to pay off arrears and applying a discount basis (the present value of an annuity representing such payments).

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## ELECTRIC-GAS OPERATING COMPANY STOCKS

	Where Traded	Price About	Div. Rate	Yield About	Share 12 Mos.	Earn. Amt.	P.-E. Ratio
Arizona Edison	O	17	.80	4.7%	June	\$1.69	10.1
Arkansas-Missouri Pr.	O	14	.60	4.3	June	1.23	11.4
Beverly Gas & Electric Co.	O	48	2.65	5.5	Dec.	2.41	20.0
Black Hills Power & Light	O	23	1.20	5.2	July	1.85	14.5
Boston Edison	B	43	2.00	4.7	June	2.22	19.4
Brockton Edison Co.	O	32	2.00	6.3	Dec.	2.10	15.2
California Electric Pr.	C	10	.50	5.0	June	1.06	9.5
Central Hudson G. & E.	C	10	.48	4.8	June	.55	18.2
Central Illinois E. & G.	O	23	1.30	5.7	June	1.95	11.8
Central Vermont P. S.	O	21	1.08	5.2	July	1.59	13.2
Cleveland Electric Illum.	C	41	2.00	4.9	June	1.97	20.8
Commonwealth Edison	S	31	1.40	4.5	June	1.80	17.2
Community Public Service	O	34	2.00	5.9	June	2.53	13.5
Concord Electric Co.	O	44	2.40	5.5	Dec.	2.46	17.9
Connecticut Light & Power	O	56	2.70	4.8	July	2.74	20.5
Connecticut Power	O	50	2.25	4.5	Dec.	2.33	21.5
Consolidated Edison N. Y.	S	31	1.60	5.2	June	1.83	17.0
Consolidated Gas (Baltimore)	C	78	3.60	4.6	June	4.55	17.2
Delaware Power & Light	O	21	1.00	4.8	June	1.20	17.5
Derby Gas & Electric	O	22	1.40	6.3	Dec.	1.29	17.1
Detroit Edison	S	23	1.20	5.2	July	.97	23.8
Duke Power	C	92	4.00	4.4	Dec.	4.75	19.4
Empire District Elec.	O	18	1.12	6.2	Dec.	1.66	10.8
Fall River Elec. Lt.	O	55	2.60	4.7	June	2.79	19.7
Fitchburg G. & E.	O	47	2.50	5.3	Dec.	2.44	19.3
Hartford Elec. Lt.	C	59	2.75	4.7	Dec.	2.45	24.2
Holyoke Water Power Co.	O	21	1.05	5.0	Sept.	1.43	14.7
Houston Lighting	S	81	3.60	4.4	July	5.45	14.9
Idaho Power	S	37	1.60	4.3	June	2.53	14.6
Indianapolis Power & Lt.	S	28	1.20	4.3	June	1.93	14.6
Iowa Public Service	O	11	.40	3.6	July	.76	14.5
Lake Superior District Pr.	O	23	1.20	5.2	June	1.72	13.4
Lawrence Gas & Electric	O	38	2.05	5.4	June	2.26	16.8
Lowell Electric Light Co.	O	45	2.35	5.2	June	2.36	19.0
Lynn Gas & Electric	O	98	5.00	5.1	Dec.	4.92	20.0
Michigan Public Service	O	17	1.00	5.9	June	1.74	9.8
Missouri Public Service	C	28	.60	2.1	Dec.	1.83	15.3
Missouri Utilities	O	17	1.00	5.9	June	1.92	8.9
Montana-Dakota Utilities	C	12	.60	5.0	June	1.14	10.5
Mountain States Power	C	26	1.50	5.8	May	1.98	13.1
New Bedford Gas & Edison Lt.	O	73	4.00	5.5	June	4.68	15.6
New Orleans Public Service	O	28	1.40	5.0	Dec.	1.59	17.6
Newport Electric	O	26	1.60	6.1	July	2.05	12.7
Pacific Gas & Electric	S	40	2.00	5.0	June	2.13	18.8
Pennsylvania Water & Pr.	C	76	4.00	5.3	June	4.87	15.1
Philadelphia Electric	S	27	1.20	4.4	June	1.61	16.8
Public Service of Colo.	O	32	1.65	5.2	June	2.26	14.1
Public Service of Ind.	O	34	1.00	3.0	June	2.00	17.0
Puget Sound Power & Lt.	C	16	1.20	7.5	June	1.84	8.7
Rockland Light & Power	O	10	.50	5.0	Dec.	.56	17.9
San Diego Gas & Electric	O	15	.80	5.3	June	.95	15.8
Sierra Pacific Pr.	O	26	1.40	5.4	July	1.54	16.9
Sioux City G. & E.	O	40	1.60	4.0	July	2.77	14.5
Southern California Ed.	S	32	1.50	4.7	June	1.73	18.4
Southwestern Public Serv.	O	23	1.20	5.2	June	1.96	11.1
Tampa Electric	C	32	1.60	5.0	July	2.08	15.1
United Illum.	O	49	2.00	4.1	Dec.	2.14	22.1
West Penn Power	O	25	1.20	4.8	June	1.26	19.5
Western Mass. Cos.	O	32	1.60	5.0	June	2.84	11.1
Wisconsin Electric Pr.	O	17	.68	4.0	June	1.02	16.2

Averages ..... 5.0%

S—New York Stock Exchange. C—New York Curb. B—Boston Exchange. O—Over counter

P.-E.  
Ratio  
10.1  
11.4  
20.0  
20.0  
14.5  
19.4  
15.2  
9.5  
18.2  
11.8  
13.2  
20.8  
17.2  
13.5  
17.9  
20.5  
21.5  
17.0  
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18.4  
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15.4  
22.2  
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15.2  
count



# What Others Think

## Utilities Use National Advertising; Tell Advantages of Their Communities



WITH the war's end and the urge upon industry again to be doing its accustomed job of making goods for civilian use, evidence is seen of the alertness of utility managements to the opportunities for greater service and growth, in the resurgence of peacetime business which is anticipated.

It has been noticed that several business-managed utility companies, either singly or in groups, are using the advertising columns of newspapers and periodicals with national coverage to make known the varied advantages of the communities which they serve. Attention is directed chiefly to the opportunities offered for industrial location, with a listing of numerous factors as reasons for the superior conditions claimed.

A recent quarter-page newspaper advertisement of *Cleveland Electric Illuminating Company* presents in the upper half of the space a map with the words, "Best Location in the Nation," in heavy letters across the top. Cleveland and neighboring territory is spotted in black in the center of this map, with five 100-mile circles spreading from it, and a catch-line below reads: "75,000,000 Customers within 500 Miles." Concise text in the remaining space sets forth the advantages claimed. A dozen separate points are listed, among them, in italics—"adequate electric power at low rates." It is stated that a brochure of the area's industrial assets will be sent, and inquirers are directed to the utility's industrial development division.

A *Consolidated Edison* advertisement has an over-all heading — "No Wonder They Call It 'Greater' New York." This newspaper advertisement, slightly more than a quarter-page, is divided into three sections. The first is headed "Great Today in War," with text and a line draw-

ing visualizing its products for the war effort. The second section is headed "Greater Tomorrow in Peace," with text telling of its extensive manufacturing activities and a variety of articles pictured. The third heading reads: "Greatest in Opportunity for Everybody." Attention is called to the city's thousands of manufacturing plants and the opportunities open to returning servicemen. And, at the close one reads: "Under enterprising private management an abundance of dependable electric power."

**A** NATURAL gas utility advertises the Gulf South. In a weekly news magazine advertisement of *United Gas Corporation* are the words at the top, "Pipe of Peace," with an Indian warrior's pipe pictured in an effective sketch alongside. Underneath, and filling half the page, a scene portrays the laying of the pipe for a natural gas transmission line. The half-tone illustration discloses a length of big pipe being lowered by caterpillar-tractor derricks into a trench, with workmen handling the job. Below, in part, is this text: "Our natural gas pipe-line system—6,000 miles in length—was dedicated to serve peacetime industry, business, and homes in the Gulf South. Then the ruthless assault on Pearl Harbor plunged our pipe lines into war. . . . When full reconversion comes our pipe lines will again be 'pipes of peace'—serving the peacetime needs of more industries, more businesses, and more homes in the Gulf South." Then a list is given of some 27 cities in the utility's service territory to which "inquiries for information on Gulf South opportunities" may be addressed to the manager of industrial development of United Gas.

Newspaper and weekly news magazine space is also being used by a group of

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four utilities to publicize "Chicago and Northern Illinois." Under this bold-face heading is a map of the North American continent. An encircled star designates the location of Chicago, and from it radiate lines indicating air routes to the far corners of the earth. At the side of this map appears the same star insignia, and under it one reads, in black-face type: "Center of U. S. Population," "Center of World Airways," "Railroad Center of U. S.," and "the 'Great Central Market.'

This advertisement, published over the names of *Commonwealth Edison Company, Public Service Company of Northern Illinois, Western United Gas & Electric Company, and Illinois Northern Utilities Company*, states that "Industries locating in this area have . . . outstanding advantages." Then follow fourteen items as features of these "advantages."

Among them one reads: "2,500,000 kilowatts of power . . . plentiful supply for industry, home, and farm"; also—"abundant gas and oil . . . large-volume pipe lines direct from country's greatest sources." The advertisement states that anyone interested in factual data concerning the area is invited to communicate with the territorial information department, which has been established to serve as an aid to business, agriculture, and industry.

**I**N the Pacific Northwest a group of four private utility companies has

been using sizable newspaper and magazine space for some time to advertise the postwar opportunities offered in the state of Washington. The advertisement usually refers to that state as "The New Cornerstone — Washington, the State Has Everything." Ten special points are featured, touching upon natural resources, diversity of agriculture, the possibilities in postwar Pacific markets, and "abundant, cheap, hydroelectric power for industry—vast, interconnected hydroelectric systems."

These advertisements — usually dominated by a large half-tone reproduction of an original drawing — are signed by four utility companies: *Puget Sound Power & Light Company, Washington Water Power Company, Pacific Power & Light Company, and Northwestern Electric Company*. And below their signatures invariably appears this statement: "Business-managed Electric Companies, Serving Low-cost Electricity to More Than 370,000 Homes, Farms Businesses, and Industries in the State of Washington."

These few samples of national advertising by utilities illustrate the awareness of their managements to the importance, in these days of changing conditions, of active and continuous effort to aid in building their home communities.

Does this, perhaps, indicate a "trend"? May we expect to see other utility companies adopt similar methods? It will be interesting to watch developments.

—R. S. C.

## Economist Charges Fallacy in Co-ops' Defense of Tax-free Status

**A** REPORT on taxation was recently presented to the Canadian Royal Commission on Co-operatives by John L. McDougall, associate professor of commerce, Queen's University, Kingston, Ontario.

A perusal of this report reveals a challenging analysis of the defense made by cooperatives of their tax-free status, and a persuasive exposition of arguments

why they should pay Federal income taxes on the same basis as all other business.

While Professor McDougall's statements refer to the Canadian situation, they apply in large measure to the situation in the United States. Inasmuch as the question of the inequity which exists in the tax freedom of co-ops is of moment to the tax-paying, business-man-

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aged utilities, the main points set forth in this report should be of especial interest to the readers of these pages.

In introducing the subject, the author states that "There are certain arguments which have been advanced in support of the tax-free position of co-operatives which require to be dealt with. It is necessary also to examine the consequence to the tax system and to the distribution of the profits or gains from trade which arise when one sector of the trading community is totally exempt from the most important part of the total tax load, while its competitors find their taxes progressively increased."

With respect to these arguments, he continues:

The first of these arguments—namely, that what appears to be profit is really not that at all because it can be made to disappear at will by *reducing selling prices* or by *increasing buying prices*—rests upon a fallacy in logic. The co-operative form has no monopoly over this escape from taxation. Any business can reduce its prices to the point where there is no profit and it will then pay neither income nor excess profit taxes. But the decision to do so is one which affects the *amount of profit*, not *their nature*. If profits do not exist, they cannot be taxed; if they do exist, they ought to be taxed under one law, equally applied, no matter who receives them. The second argument—namely, that the profits or gains of a co-operative are not truly profit, but a "saving," a "surplus," or the "refund of a provisional overcharge," in any case something other than profits, because co-operatives do not seek profit—can be accepted only if a co-operative *does not trade in its own name*. If it acts as an agent or broker upon instructions of its members it need charge only enough to cover its necessary outlays. But when it *buys outright at one price and sells at another* it appears as a principal in the transaction. This is true alike of producers' and consumers' co-operatives. Whether its management does or does not wish to make profit or gains is immaterial. The members, the directors, and the appointed managers may all be of one mind in wanting only to be of service and to avoid profit like the plague. But the plain fact is that the winning of a profit is the price of survival. Without profit the co-operative cannot balance its accounts. And if, being legally incorporated and enjoying all the advantages of legal incorporation, of limited liability, and of perpetual succession, it makes a profit it is inevitably liable to corporation income and excess profits taxes.

Thus, the author observes, "the nature of the co-operative dividend now shows up clearly as a device to attract and retain custom for a business organization. *It is not a refund*. If it were that, it would be an ordinary trade discount whose amount is fixed, announced in advance, and which is unchanged for years on end. The co-operative trades as a principal and periodically casts up its accounts, determines the amount of its profits, and then decides how much of that profit shall be paid out in patronage dividends and how much shall be retained to increase the capital upon which it trades."

PROFESSOR McDougall calls attention to the fact that one of the prime attractions offered by co-operatives to their members is "the opportunity to share in the profits of a trading operation," and he observes:

... naturally the *greater the weight of taxation on others*, the greater the rewards of membership in a tax-free co-operative. How the members of a co-operative elect to distribute those trading profits ought to be left to themselves to decide. But surely it is profoundly improper that a private decision of that kind *should be allowed to govern their public obligations*. It is good logic as well as good law that it is the *source* and not the *destination* which determines whether profits or gains exist. The liability to tax must depend upon the *existence of profit* and not upon the particular method of using that profit. Who would remain taxable if all taxpayers were allowed the same right to determine their own tax status?

It is then noted that still another argument frequently heard is that the whole of the profit or gain of the co-operative venture trading upon its own account is attributable solely and exclusively to the patronage of its members. "This," the author avers, "is also fallacious." He adds:

This argument rests upon a peculiar mental blind spot. Those who make it are so lost in contemplation of the virtues of their own movement that they are unable to see the grand outlines of the great society of which they form so small a part. We, all of us, live in mutual interdependence. We each specialize in his own small line and then exchange products through the market with others who are doing likewise. Where would consumers' co-operative be if it were

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cut off from supplies of goods produced outside the movement, without the benefit of railway, telegraph, and telephone service, without the services of lawyers and accountants who were not in full-time employment? "Coöperation" in this narrow and specialized sense is largely an inflation of the ego based upon ignorance of how the world runs.

**C**ERTAIN of the more ardent proponents of coöperatives, the author says, envisage their growth until they are certainly the dominant and possibly the only surviving business. He comments that in Canada (where the chief coöperatives are producers' organizations), the wheat pools already have some 40 per cent of the total trade in grain. In the western Provinces certain of the dairy coöperatives have nearly a perfect monopoly control of the territories which they have marked out for themselves. "But long before that point is reached," he declares, "the tax system will have to be revised, or else the state would be utterly destroyed by lack of revenue." That he is not alone in this opinion is indicated by this reference to views held by eminent Britishers:

... This was clearly recognized by Professor Pigou of Cambridge University as early as 1920. This problem has also been considered by Professor D. H. MacGregor of Oxford, who came to the conclusion that so far as Britain was concerned, the answer was either a sales tax or a corporate income tax upon the whole of the income of coöperatives *before* the payment of patronage dividends.

Professor McDougall then closes this part of his statement with these significant words:

Thus, even if it be denied that coöperatives make a profit or gain, even if it be accepted that patronage dividends are a return of an overcharge (neither of which can be logically supported), it would still be necessary to levy taxes upon them if they became the major form through which business is carried on. No matter what attempts are made to maintain their present tax-free position, it will, in the end, be destroyed by the very growth which such unparalleled immunity from taxation makes possible.

**T**HE author then reminds the reader that coöperative companies (on this side of the water) sprang from the di-

rect example of their British counterparts. Therefore, it is inevitable that British precedents should be considered with close attention in all questions concerning coöperatives. But, he adds:

... British precedents cannot be transplanted bodily and without change. These are two different countries. They are different in their economic conditions and in certain of their institutions. The most important difference is that Canadian income tax system has followed that of the United States rather than that of Britain and has always levied a tax upon the *income of corporations, as well as on that of individuals*. As a result the income of corporations is taxed twice: once when it is received by the corporation, and again when that part not absorbed by the corporation tax is paid out as dividends to the shareholders. No allowance is made to the shareholder for the fact that the income he receives has already been taxed once.

This is totally foreign to British practice. In normal times the British income tax is a personal tax—collected at the source. The corporation is responsible for seeing that the tax is paid, but it can recoup itself out of the dividends which are payable to shareholders. In other words, the British income tax is not a tax upon corporate income at all; it is a collection at the source of the tax upon individual incomes. If the dividend paid in any year is equal to or exceeds the amount of the corporation's taxable earnings in that year, then the whole of the tax falls upon the shareholders. If part of the income is not distributed, then the normal tax upon that part, and that part only, falls upon the corporation. But the object is not to tax the corporate income; it is to do justice by making certain that all the taxable income of the year is assessed to tax.

Attention is directed by the writer especially to the fact that in Great Britain this payment (of tax) by the company is a device to simplify administration:

The bearing of this difference upon the exemption of coöperatives from the British income tax upon trading profit (Schedule D) was covered by the Royal Commission on Income Tax in a reservation to the main report, in which they say in part: "If there were in the United Kingdom, as there is in the United States of America, a corporation tax levied specially on corporations as such, it would, no doubt, be proper that a coöperative society should, as a separate legal entity, be made liable to that tax."

Professor Pigou, the most distinguished living member of the Cambridge school of economic theorists, was a member of that commission and signed that reservation.

## WHAT OTHERS THINK



Courtesy, *Broadcasting*

"EXPLAIN TO THIS CHARACTER WHAT 'FREE RADIO' MEANS—  
HE'S ASKING FOR HIS FREE SET!"

TURNING now to what he terms "The Canons of Taxation," Professor McDougall says that ever since Adam Smith, writing a century and a half ago, from all authorities one gets the same answer to the question, "What is the first canon of taxation?" With one voice they all say: "*Taxes must be productive.*" He then makes this telling observation:

... No matter what else may be said of a system, it is a failure if it does not find revenues adequate to the service of the state. The fact that the governments of Canada (and the United States) are spending much faster than the tax gatherer can accumulate funds needs no restatement. The tax on corporate incomes is certainly unjust in its present form, for shareholders are given no allowance for the tax already paid upon income they receive as dividends. The corporations which prosper pay tax at a very high rate upon their incomes and, consequently, it is a very rich source of govern-

ment revenue and will not be eliminated in the foreseeable future. For these reasons the question whether cooperative companies should or should not submit to the same taxes as other companies must be met squarely. *It cannot be avoided by recommending the abolition of all taxes on corporate income.*

The writer lists as the second canon: "*Taxes should not interfere with the production of wealth.*" Under this heading he states:

One of the clearest public recognitions of this principle is made by the British Royal Commission on the Income Tax as follows: "In considering which decisions we have borne in mind the undesirability of restricting commercial activities or of suggesting anything that might tend to diminish that national prosperity on which the success of the tax primarily depends."

It is a logical corollary from this second principle that *all tax legislation should give every form of organization an equal opportunity.*

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*tunity to grow and to develop.* Corporations with share capital have been one of the chief forms for the raising and the accumulation of capital. Coöperative corporations with differing methods for raising money and different methods of distributing their trading profits are now rapidly developing. They should not have their growth financed by statutory exemptions from taxation which are denied to their direct competitors. Each ought to be accorded an equal opportunity to do any lawful business. Neither one should be favored as against the other, nor against the earlier forms of enterprise, the individual proprietorship and the partnership, nor against any other form, at present unthought of, which should develop in the future.

THE third canon noted is: "*A tax should rest upon those best able to bear it.*" The arguments set forth by the author to substantiate this statement are practical and effective. He says:

In a community like our own in which the percentage of the national income which is taken by the state is so very large, it must be accepted that those able to pay must include practically the whole community. Arguments for exemption which would have been accepted without question when public expenditures were at a very low percentage of the national income must now be rejected.

Any claim for exemption must rest solely upon the *poverty of those who are to be exempt*. It cannot be made for a whole class without exception. In the special case of farmers it would be proper to recommend special provisions for the computation of their incomes which would allow for the special nature of farm operations. But it would be profoundly improper to recommend exemption to farmers as a class upon their personal incomes and still more improper to suggest that corporations whose shareholders were farmers should be exempt upon that ground. To relieve corporations with farmer shareholders of taxation because some farmers are not wealthy would be a wholly arbitrary procedure.

The fourth canon given is: "*Taxes should be just as between various taxpay-ers.*" Here also Professor McDougall advances arguments in support of this fourth canon. Stating that this principle requires that liability to tax shall be determined by *objective tests*, he continues:

... Many coöperators appearing before this commission rest their case upon the assumption that, since they are discharging important social functions, they ought to be excused from the payment of taxes to which

others who engage in the same business are and should remain subject because the latter are not equally "high-minded." For purely administrative reasons, if for no other, objective tests have to be found to measure the liability of a tax. Any other basis would amount to setting up a state-subsidized religion in which the orthodox would draw their rewards here and now and leave Heaven to look after itself. This has always been a free country. The economic basis for this freedom would disappear if the citizen could not enter any trade or business in any legal form, or if the taxing power were used punitively against some for the encouragement of others. Differential taxation as between corporations carrying on the same business which is based on *difference in corporate form only and not on the nature of the business done* is not only unfair as between respective taxpayers, it is also profoundly unwise from the standpoint of society. Coöperatives are set in a specially favored position and are not compelled by equal competition to justify the efficiency with which they use their growing resources. They are therefore encouraged to expand into fields in which their *net productivity is lower than that of their competitors merely because of this tax advantage*.

The total net product of their competitors is divided between them and the state. *That of the coöperatives is, all of it, left untaxed.* . . .

Finally, a corporation has no claim to special protection. Their shareholders must be presumed to have invested their money with their eyes open, and to have accepted the possibility that their capital may be lost. But equally they have a right to expect that having invested capital in a state-regulated industry, *they shall not be pillaged by the granting of tax advantages to competitors whose major differences from their own lies in the length of the shareholder's lists or in the identity of the persons whose names are on those lists.*

Coöperatives, it is pointed out, are incorporated legal persons with limited liability and perpetual succession and which trade in their own names. They make profits or gains from that trading. When those trading results are known the coöperative decides through its directors when, how, and in what proportion those gains from trade shall be divided. This is, in its entirety, the performance of a legal entity entirely separate and distinct from those who are members of it.

If there is a tax upon the earnings of corporations as such, then coöperatives should be subject to it.

All taxes on business firms are in the long run costs of doing business regardless of the particular method of assessment. Therefore, to permit coöperatives to escape from

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costs so heavy as the income and excess profits taxes now are (and give promise of remaining for a long period after this war) is a gross discrimination against those now assessed. It tends to destroy the tax base, and leads to the uneconomic employment of the nation's resources.

Most important of all, the effect of this discrimination is cumulative.

"THE existing situation," it is the conclusion of the author, "is totally indefensible, whether on the grounds of abstract logic or of public policy. Exemption from taxation is not necessary to a cooperative movement because, given good management, there is no reason why a cooperative should not be as profitable as any other commercial venture. It is contrary to the whole

trend of cooperative thought which has always been against accepting bounties from the state as striking at the very roots of its independence."

This question of "tax equality" is a vitally important one, both for the continuation of free enterprise and for the maintenance of tax income to meet the costs of Federal government. It is an especially timely discussion for the United States government just now.

Confronted as this country is by a huge debt, the service upon which alone runs into billions of dollars, plus all the other heavy Federal expenditures, Congress may see in these tax-free groups a source of revenue which should no longer be ignored.

—R. S. C.

## Holding Company Act Brings Decade of Debate

IT was ten years ago—on August 26th—that the Wheeler-Rayburn Bill became the Public Utility Holding Company Act of 1935. Changes of much moment in the utility picture have resulted from that congressional action.

The history of the act's administration by the Securities and Exchange Commission and its reluctant acceptance by the nation's \$16,000,000,000 electric light and power industry has been fraught with dissension. This is the comment of John P. Callahan, writing in *The New York Times* on this tenth anniversary date.

Mr. Callahan reviews various circumstances arising in connection with the enforcement of the act and cites opinions expressed by former chairmen of the commission relative to certain of its features. His observations vividly bring to light the vicissitudes to which the utility companies have been subjected by the strictures imposed. They make instructive reading.

It is "the opinion of outstanding members of the legal profession," he says, "that 'no more cumbersome law ever has been passed after months of bitter congressional debate.'" The writer states:

Shortly prior to its enactment, Joseph P. Kennedy, first chairman of the SEC, who served from July 2, 1934, to September 23, 1935, said in committee hearings that the House version of the bill furnished "no effective standard to guide the commission in the momentous decision it must make." "I do not believe it is fair or practical," he continued, "to expect any five men to shoulder the responsibility of deciding which of these (utility) systems are to be reorganized and into what size and character the ultimate groupings should evolve."

Although those in favor of the act say that the final version of the bill did contain changes suggested by Mr. Kennedy, nevertheless, spokesmen for the utility industry are adamant in their contention that the SEC today exercises a power to which Mr. Kennedy was opposed when he said that it was "not a wise policy to vest in any one group of men the tremendous responsibility involved in this great power."

On the whole, observes Mr. Callahan, the utility industry endorses almost every feature of the act. "However," he adds, "almost unprecedented controversy surrounds the 'death sentence' provision in § 11(b)(1) which calls for geographic integration and corporate simplification by all registered holding companies."

And, he notes:

Therein lies the bone of contention which

## PUBLIC UTILITIES FORTNIGHTLY

has beset the fifty-three utility systems that registered under the act between 1935 and 1938. For more than seven years, this clause has been the cause of acrimony, and while some surface harmony has been noticed in industry-commission relations as the result of meetings of the mind, there has been little over-all change in the attitude of both parties.

Disagreement with the commission's interpretation of this section of the act is the main basis for the industry's opposition. For example, utility executives contend that preliminary to forcing compliance with § 11, the commission should conform to the requirements of § 30, which states that the commission should publish a study determining the regions and criteria of individual system integration by sizes, interests of the public, the investor, and the consumer. Here, the industry argues, the SEC has been remiss in avoidance of that duty.

**I**t is pointed out by the writer that a further contention of the utility industry is

that James M. Landis, second chairman of the commission, who served from July 2, 1934, to April 14, 1940, made a public acknowledgment of the commission's obligation under § 30 when he said, in a broadcast to the nation on September 28, 1935, that "Congress has left to our commission the standard to be applied in the light of continuing and concrete study. Furthermore, it has given us two years, at the end of which we are to have a plan to bring about this economic and geographic integration."

Plus these elements of contention, Mr. Callahan lists "another strong point of disagreement":

... the industry's assertion that no part of the act calls for elimination of holding companies. Yet, in the opinion of many utility men, this is the apparent aim of the director and the staff members of the public utility section of the SEC.

Despite the industry's strong feeling that the act is misinterpreted by the commission, it is recognized that there is no alternative but to comply with it, particularly § 11, until such time as the U. S. Supreme Court passes on the constitutionality of the "death sentence" clause. In this connection, the writer observes,

both the commission and the industry have gone through an intricate maze of legal steps leading to eventual dissolution of systems and eventual complete compliance with the act.

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In many cases, plans filed by the companies were voluntary and in the commission's fiscal year ended on June 30th a high record was made with thirty applications designed to comply with the dissolution orders of the SEC being submitted to it.

The article then quotes a member of a law firm which has represented one of the large utility systems for more than five years as expressing the thought that the commission has had the "difficult task of administering one of the most complicated laws ever entered on the statute books . . . regardless of what one thinks of the act and the manner in which the SEC has interpreted the several provisions in it, the staff of the commission has performed its duties with commendable efficiency in the face of what sometimes appeared to both of us to be discouraging and overwhelming odds. Few people outside of those directly connected with the situation realize the tremendous amount of corporate simplification which has resulted during the past six or seven years."

**T**HE records of SEC show that "as of June 30, 1944, 266 electric, gas, and nonutility subsidiary companies with assets of \$3,765,000,000 were divested." Then the writer states that a staff member of the commission's Philadelphia office remarked it is impossible to say that any system yet has been divested to the point where it is no longer subject to the act although in almost every case all of the major steps leading up to eventual complete compliance have been taken. This same spokesman also indicated that the filing of dissolution plans with the commission points to the culmination of this phase of the SEC's activities within the next two years or so, after which time a smaller staff may be required to administer the "routine" phases of the act, he concluded.

Commenting upon the "crucial stage" at which the government and the industry now stand, Mr. Callahan says that "almost without exception there are no spokesmen who will publicly discuss their respective attitudes," due to the fact that

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"SHE WON'T BELIEVE IT'S ME, JOE! MAYBE IT'S THESE WHISKERS!"

in the case of the utilities, many of their plans are now before the commission and, as one member put it, "it might prove embarrassing at this point in our relationship." In the case of the commission the reluctance of the staff to discuss any phase of the act publicly is explained in part by the fact that following possible early appointment of a successor to Justice Roberts on the Supreme Court bench the court will again have the quorum requisite to hearing the recently postponed case involving the constitutionality of the "death sentence" clause.

The writer then noted that there is an

exception to the industry's silence, and quotes Donald C. Barnes, president of the Engineers Public Service Company, as saying that

after ten years the Securities and Exchange Commission deserves great credit for the effective job it has done since the Public Utility Holding Company Act was passed in administering the regulatory provisions of the act. The commission has, in my opinion, demonstrated that the abuses which the act was intended to correct can be eliminated by regulation without recourse to the "death sentence" provisions in § 11(b)(1).

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After reading Mr. Callahan's article, one is reminded of the claims which are not infrequently made as to the benefits to result from carrying out the terms of the Holding Company Act. Especially, it has been stressed that investors in utility securities, and customers of the operating companies, would be far better off when the integration features become effective, and many

companies are "divested" and on their own.

It will be interesting, and perhaps instructive as well, in the coming years when the utilities will be faced with many questions of a broad nature—atomic power may be one of them—to see how *real* are the "benefits" which have been so freely promised.

—R.S. C.

### California Utility Distributes Federal Hydro Power—Uncle Sam Profits

In the August issue of *P.G. and E. Progress*—published by Pacific Gas and Electric Company for the information of its customers and stockholders—appears a story of that company's co-operation with Uncle Sam. The article tells details about its purchase and distribution of electric power produced at Shasta dam of the Central Valley project in California.

It appears that PG&E paid the United States government almost \$2,000,000 for power from Shasta dam in the year ended June 30, 1945, and its payments for the calendar year 1945 will exceed \$3,000,000. The article states:

PG&E purchases Shasta power under a contract with the Department of the Interior, at a price set by the department and described by Secretary Ickes as "fair and equitable." The power is delivered at the company's Shasta substation, 25 miles south of Shasta dam. It is metered and paid for at that point. PG&E distributes Shasta power over PG&E facilities and markets it in the territory served by the company.

Attention is called to the fact that "distribution through the PG&E system avoids wasteful duplication of transmission lines and other facilities. It also assures the government under the contract now in effect a better revenue for Shasta power than if a separate transmission system were built and the power sold as an independent venture."

As to the terms of the contract and the operating arrangements, the article discloses:

The contract provides that, from January 1, 1945, the PG&E pays a minimum of \$2,700,000 a year for the power. The company also pays \$75,000 a year rental on a transmission line built by the government between Shasta substation and Oroville. . .

The present installed capacity of the Shasta power plant is 201,000 horsepower, but the government plans ultimately to install a total of 600,000 horsepower at the Shasta and Keswick dams. PG&E, it is stated, has offered to buy the total output of the completed installation, and this would mean a gross revenue to the government of approximately \$6,000,000 a year. It is of especial interest to note that

This \$6,000,000 will meet all the operating costs of the Shasta and Keswick dams, including interest and amortization on the plants and on Keswick dam, and leave a balance of more than \$3,500,000 a year to be used for paying back the cost of the remainder of the project or further reducing the price of water for irrigation and other purposes.

FOLLOWING this recitation of the benefits to the government resulting from the sale of hydro power produced at a Federal project, direct to an established utility company for distribution, the article tells of some very interesting recent happenings.

It appears that the Bureau of Reclamation (which has jurisdiction over the Central Valley project) requested at the present session of Congress that there be included in the Interior Department

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Appropriation Bill an item of \$115,000 for designs, plans, and specifications for a steam plant and another of \$100,000 for designs and plans for a transmission system. The ultimate cost of these facilities, it was stated, would exceed \$75,000,000.

The House disapproved these two items, but the Senate restored them to the bill. At the House-Senate conference later, however, both items were eliminated. The article then comments:

Regarding the bureau's claim that the steam plant is required to "make firm" the output of the project's hydro plants—that is, to assure dependable supply—it was shown during the hearings that the PG&E has offered and continues to offer to pay for all hydroelectric power generated on the project the same price it would have if it were "firmed" by a project steam plant.

Likewise the hearings brought out that the transmission system is not needed to bring the project's power into the market or make it available for the project's pumping plants. . . .

Referring to the report of the House Committee on Appropriations disapproving the two items, the article quotes this statement:

The committee is advised that power now available from the project is being sold near Shasta dam under a contract which guarantees to the government a fair and equitable price and which preserves for public agencies the preference they are entitled to under the Reclamation Law.

Under these conditions it is unnecessary for the government to appropriate funds to construct either a steam plant, estimated to cost \$26,000,000, or a transmission system, which would cost approximately \$48,000,000, which would not produce greater returns to the government.

There is no unserved market in the area. The proposed steam plant and transmission system would duplicate if not destroy existing tax-paying facilities and take much valuable property off the tax rolls, to the detriment of many towns and counties in California.

A COMMENT was made by the committee which illustrates the tendency on these Federal projects for the costs to grow substantially beyond original estimates. On the Central Valley project, it appears the original cost figure of \$170,000,000 has risen in a

few years to more than \$362,000,000. With respect to this, the committee said, "considering the need for economy, it would appear to be in the interest of the project to find ways and means of reducing rather than increasing activities."

In the Senate there was rather lengthy debate on these Central Valley items. Senator Harold H. Burton of Ohio, who endorsed the House report, made a factual analysis of the reasons why neither the steam plant nor the transmission line is needed. The article quotes his words:

Here is a case where a private utility already is in a position to "make firm" the power supply (from the Central Valley project). It has agreed to do so and has agreed to pay the same price the government would be able to demand if the government did have a steam plant. The government does not need this steam plant to firm its supply or to establish a better price for its product.

The transmission line would follow practically the same route as the company's lines.

In the course of his remarks, Senator Burton declared: "It is my understanding that the people of the United States are not in the business of investing \$75,000,000 in California, or elsewhere, merely to put existing private companies out of business." He added:

If we wish to conserve \$75,000,000 of public money, this is the place to do it, because the private company will supply whatever is necessary to distribute the (Shasta) power, will make the investment, will pay taxes on the investment—and the public will be adequately served.

We should not spend \$75,000,000 of public money to do over again what the private company has done or is willing to do. . . .

The article states that Senator Elmer Thomas of Oklahoma expressed similar views. He said:

The Reclamation Bureau can get more money for the power by selling it at the bus bar (Shasta substation) than by building transmission lines and steam plants and undertaking to distribute the power.

THE views expressed by these two Senators suggest an awareness on the part of some members of Congress as to the need for a practical policy in marketing the power from these projects.



## FPC Appointments

PRESIDENT Truman on September 12th appointed Richard Sachse of Sacramento, California, to be a member of the Federal Power Commission, succeeding John W. Scott, whose resignation was announced sometime ago. Mr. Sachse was appointed to the California Railroad Commission by former Governor Olson. He is reported to be an active supporter of public power ownership.

Harrington Wimberly of Altus, Oklahoma, a newspaper publisher, was also appointed a member of the FPC, succeeding Basil Manly, who will leave the commission October 1st to take a position as president of the Atlanta Gas Light Company.

Chairman Manly was appointed to the FPC by President Roosevelt in June, 1933.

The Securities and Exchange Commission is now considering the validity of the sale of Atlanta Gas Light Company to the Southern Natural Gas Company.

Representatives of the latter company on the board of the Atlanta Company recently elected R. G. Taber as president to succeed H. Carl Wolf, who has resigned to accept the position as managing director of the American Gas Association. In commenting on this situation, Wolf recently said: "Mr. Taber has been elected president of the Atlanta Gas Light Company, effective October 1st. He will continue as president under the present management until such time as the company's stock is sold to the Southern Natural Gas Company."

## SEC Approves Financing

THE Securities and Exchange Commission on September 6th approved unanimously the refinancing program of the Public Service Company of Indiana, Inc., as well as the corporation's transfer of all of its gas and water properties together with its Sheridan Ice properties to a new company, Indiana Gas & Water Company, Inc. The book value of the properties being transferred to the new company is about \$14,540,000, which represents about 13 per cent of the net assets of Public Service.

In approving the transaction, the commission observed that it "will serve the public interest by tending toward the economical and efficient development of an integrated public utility system or systems."

To finance the acquisition, Indiana Gas will

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turn over to Public Service 277,460 shares of its common stock, together with the net proceeds from the issuance and sale at competitive bidding of \$6,000,000 of first mortgage bonds. Public Service intends to dispose of the common stock investment as soon as such disposal may be made on reasonable terms.

Public Service's refinancing involves the issuance at competitive bidding of \$48,000,000 of Series F bonds, borrowing of \$13,000,000 from banks, and the issuance and sale at competitive bidding of 150,000 shares of cumulative preferred stock. With the proceeds, Public Service will redeem its Series B, C, D, and E bonds now outstanding, in the principal amount of \$59,314,500; prepay \$7,750,000 of serial notes now outstanding; and call for redemption 148,185.9 shares of outstanding Series A preferred stock.

The SEC reserved jurisdiction over the results of the competitive bidding for the bonds and preferred stock of Public Service, as well as for the bonds of Indiana Gas. Likewise it reserved jurisdiction over the proposed payment by Public Service of a \$25,000 fee to King & Squire for its services in soliciting stockholders' approval of the transfer of properties to the new company.

## FPC Authorizes Elimination

THE Federal Power Commission has (1) approved the Montana-Dakota Utilities Company's proposals to eliminate a total of \$5,824,677 in write-ups and other excesses of recorded cost over original cost from its gas plant accounts and an additional amount of \$25,921 from its electric plant accounts, and (2) authorized the company to reduce the par value of its 679,559 $\frac{1}{4}$  shares of common stock heretofore issued from \$10 to \$5 per share. The company proposes to transfer the reduction in common capital stock of \$3,397,796 to capital surplus and to effect the elimination of an equal amount in write-ups by a charge to this account.

In its application for authority to reduce the par value of its stock and to make the accounting adjustments approved by the FPC order announced September 6th, the company also sought authorization to reduce its stated capital stock accounts. That part of the application was dismissed for want of jurisdiction.

Montana-Dakota Utilities Company, with principal offices in Minneapolis, Minnesota,

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carries on an electric and natural gas utility business in Montana, North Dakota, and South Dakota, and a gas utility business in Wyoming.

### Rural Expansion Program

**C**ONSTRUCTION has begun on a \$3,000,000 rural expansion program calling for approximately 2,400 miles of new lines to serve about 11,000 new customers and others who may apply for service, according to an announcement by the Carolina Power & Light Company, in which the company's postwar rural program was made public.

President L. V. Sutton stated that the company anticipates that the rural program will reach 3,000 miles of new lines by the end of 1946.

The proposed new lines are scattered throughout the company's territory, covering a part of both North and South Carolina.

Sutton emphasized the fact that although some construction already has begun, the program will proceed as material and man power become available. Unless there is delay in obtaining construction material, the company's present schedule calls for completion of the 2,400 miles of lines during 1946.

The \$3,000,000 rural program will require 40,000 poles, more than 3,000,000 pounds of wire, and about 10,000 transformers.

The present rural program is one of the most extensive ever undertaken by the Carolina Power & Light Company. Prior to 1935, the company had constructed approximately 1,880 miles of rural lines, serving about 12,340 customers. During the period from June, 1935, to the beginning of the war, however, all types of company customers increased rapidly, the residential, commercial, and industrial customers almost doubling. During this time, an additional 4,500 miles of rural lines were constructed, serving 28,524 new rural customers.

As of August 1, 1945, the Carolina Power & Light Company was serving approximately 41,765 rural customers over 6,540 miles of rural lines.

### TVA Plans to Complete Dams

**T**HE Tennessee Valley Authority plans to resume construction of the Watauga and South Holston dams, at any time the President and the Congress so decide, and when the necessary construction funds are made available, the board of directors announced recently.

About 3,000 men will be employed during the peak period of construction, the directors said. Funds will be requested to resume work on July 1, 1946, but "the starting date could be moved forward several months should the President and Congress decide this was in the interest of stabilizing employment during the reconversion period."

Work on the Watauga and South Holston dams began in February, 1942, but was suspended in the fall of that year after the War Production Board ordered construction halted to conserve materials and man power.

TVA said that under present plans, if approved by Congress, "construction would be resumed on a schedule calling for the completion of Watauga dam, on the Watauga river, in the fall of 1949 and completion of the South Holston dam, on the South Fork of the Holston river, in the fall of 1951. This construction schedule would yield substantial economies over the simultaneous construction of both projects, because of reduced equipment and overhead costs.

### Rail Rate Change Criticized

**T**HE California Railroad Commission and the Mountain-Pacific States Conference of Public Service Commissions asked the Interstate Commerce Commission on September 5th to reconsider its decision of May 15th ordering a permanent adjustment of railroad class rates. The conference is composed of the public service commissions of Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

The California commission said in its petition that the ICC "has failed to accord shippers and carriers in the Mountain-Pacific region the means of ascertaining the effect and extent of the numerous changes which will be required in transcontinental rates" as a result of the proposed class rate revision.

In recommending that the ICC set aside that part of the order dealing with the so-called permanent class rate adjustment, the California commission suggested that an investigation of the Mountain-Pacific and transcontinental class rate structure "might then be appropriate."

The Mountain-Pacific conference contended that the class rate order "has a direct and far-reaching effect upon the welfare of the states in this area" and that rates to and from Mountain-Pacific territory "will be so changed as to disrupt relationships of long standing."

"Other disruptions," the petition said, "will be brought about by rates prescribed to and from border points. The impact of the decision cannot be measured by the volume of the traffic moving under class rates."

### Gas Restrictions Revoked

**T**HREE wartime restrictions on natural gas and gas condensate petroleum—recommendation 13 and 25 and directive 79—were revoked, effective September 1st, Petroleum Administrator for War Harold L. Ickes announced late last month.

At the same time, Administrator Ickes announced that recommendation 32, issued to assure equal treatment of all property owners in administering well-spacing regulation, has

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been revoked, also effective September 1st, when well-spacing regulations would be discontinued.

"Each of these control measures was adopted to meet a specific wartime requirement," Mr. Ickes said. "As with all other restrictions that had to be placed on the petroleum industry during the war, they were revoked at the first feasible moment."

### SEC Hearing Set

THE Securities and Exchange Commission last month set October 9th for a hearing to consider whether the Middle West Corporation may retain its interest in seven companies under holding provisions of the Public Utility Holding Company Act.

The companies in which Middle West holds an interest include: Central Illinois Public Service Company of Springfield, Illinois; Public Service Company of Indiana, Inc., of Indianapolis; Kentucky Utilities Company of Lexington, Kentucky, and its subsidiaries; South Fulton Light & Power Company,

located in Tennessee and Virginia; Old Dominion Ice Corporation of Morton, Virginia; and Dixie Power & Light Company, in Tennessee and Virginia.

The commission said its order for a hearing also raised the question of retainability by Kentucky Utilities of its utility and nonutility properties, and requested that particular attention be directed to the steps necessary to confine Middle West and Kentucky Utilities to "single integrated utility systems" and additional systems and other businesses retainable therewith.

The order also directed that inquiry be made into the capital structures of Middle West and its subsidiaries, Central Illinois Public Service Company, Public Service Company of Indiana, and Kentucky Utilities, to determine what steps should be taken to "insure that the corporate structure or continued existence" of any of such companies "does not unduly or unnecessarily complicate the structure, or unfairly or inequitably distribute the voting power among such security holders" of such holding company system or systems.

## Arkansas

### Rural Territory Divided

THE Arkansas Power & Light Company was recently authorized by the state public service commission to sell 17.2 miles of line running from the east bank of the Arkansas river at the Morrilton bridge through Petit Jean state park for \$12,424 to the First Electric Coöperative. The line, built and operated by the company, serves twenty-five customers.

The commission's decision was in compliance with an agreement reached last year between the First Coöperative, the Arkansas Valley Coöperative, Petit Jean Electric Coöperative, and the company to divide rural area in Conway, Faulkner, Pope, Van Buren, and Cleburne counties.

The state public service commission, following a hearing on September 6th, allocated certain rural territories in Polk county to the newly formed Rich Mountain Electric Coöperative, after the company submitted an amended application withdrawing its requests for territories contested by the Arkansas Power & Light Company, Southwest Arkansas Electric Coöperative, and Southwestern Gas & Electric Company.

The coöperative was granted permission to construct 309 miles of rural electric distribution lines to serve 760 customers, and testified that the lines could be built for approximately \$750 a mile. Commission Chairman Charles C. Wine expressed doubt that the lines could be built for that amount, but said the application was granted because the coöperative's loan of \$410,000 is sufficient to cover higher

expense. The commission required the coöperative to revise its basic rate schedule to increase the minimum charge from \$1 to \$2 a month.

AP&L was granted nearly all the rural territory in Montgomery county, a part of which had been in conflict with the coöperative's original application. The company was granted permission to construct 147.9 miles of lines at an estimated cost of \$118,320 to serve 450 customers. Annual revenue was listed as \$15,690.

The Southwestern Gas & Electric Company's conflicting application for all territory within one-fourth of a mile of the city of Mena was taken under advisement. The commission took no action on the application because the company, which wants to buy a one-mile private line northwest of Mena from K. E. Merren, did not file a joint purchase application.

Protest of Southwest Arkansas Electric Coöperative was dismissed when the Rich Mountain Coöperative withdrew its request for territory in southwest Polk county, near existing lines of the protesting coöperative.

The commission dismissed a protest of James A. Roby, representative of the Rural Electrification Administration at St. Louis, on behalf of the South Central Arkansas Coöperative, which is seeking allocation of territory granted to AP&L in southeast Montgomery county near Glenwood.

AP&L was given territory in Independence county and granted permission to construct 260 miles of lines for \$208,240 to serve 866 customers, with estimated annual revenue of \$25,980.

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### District of Columbia

#### Gas Rates Unchanged

THE District of Columbia Public Utilities Commission recently ruled that the present gas rates charged by the Washington Gas Light Company should continue during the rate year beginning September 2nd. The rate of return of the company was set at 6 per cent and accepted by the company.

#### Reilly Resigns

THE resignation of James F. Reilly from the District of Columbia Public Utilities Commission was made known recently, effective October 1st. He was appointed by the late President Roosevelt for a 3-year term beginning June 30, 1944, and was previously with the Civil Aeronautics Board.

### Indiana

#### Trial Fare Approved

A 3-MONTH trial period for a proposed uniform fare schedule of the Indianapolis Railways was approved early this month by the state public service commission.

The utility offered the proposal in settlement of the commission's investigation of its financial structure and fare schedule, which was begun in June, 1943.

Members of the commission approving the trial fare schedule were LeRoy Yoder, chairman; Lawrence Carlson; and Lawrence Cannon.

The adopted proposal provides for a uniform system of fares on the basis of 8 tokens for 55 cents, which, company officials point out, amounts to 6.875 cents a token. The proposed plan also stipulates 10 cents for a single cash fare and a unified system of 2 cents for transfers between the various types of service operated by the utility. Free transfers are

to be retained under the proposal to and from feeder lines and free transfers also will be available on a 2-cent transfer.

Spokesmen for the transportation company said the adopted proposal will result in a material saving to a large segment of the Indianapolis riding public who previously have been forced to pay a straight 10-cent cash fare on through motor coach lines.

The tariff schedule approved by the commission became effective September 15th. The new fare structure will remain in effect on a temporary basis until December 15th, to determine whether inequities to the public or the company result.

Members of the state commission, on approving the trial proposal, said the uniform fare schedule will not only result in more convenience and less confusion to the public, but likely will save the riding public from \$100,000 to \$130,000 annually, on the basis of present transportation figures.

### Iowa

#### Paves Way for Natural Gas

A MOVE toward opening the way for conversion of the Des Moines utility system to use of natural gas was taken by the city council early this month.

The council instructed the city legal department to prepare an amendment which would increase from 850 to 1,050 British thermal units (quantities of heat) the maximum content of gas burned in Des Moines, as specified by city ordinance.

A request by the Des Moines postwar planning committee, and an informal written agreement by Iowa Power & Light Company to make the change if the city made the necessary alteration in the ordinance, prompted the council action.

A mixture of natural and manufactured gas is used now.

Mayor John MacVicar made the motion

that the drawing of the amendment be ordered, after letters from the postwar planning committee to the council, and from C. A. Leland, Iowa Power & Light Company president, to the committee, were read.

The committee said some industry wanted natural gas; that at least one plant at the edge of the city but outside the corporate area and near a gas pipe line used the natural fuel; that its availability inside the city limits would help to attract new industry.

Leland wrote that natural gas could be provided, if the council adopted the enabling amendment, after the 1945-46 heating season and by July 1, 1946.

Samuel K. Miller of the Landlords and Home Owners Association told the council he considered natural gas "desirable" but expressed belief that "we should have about 25 per cent general reduction in rates in Des Moines whenever this change is made."

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In his letter, Leland said it was "not possible to determine what these (natural gas) rates may be at this time." He added that

the council would be in a position to determine, with the utility company's co-operation, the rates to be charged.

## Kentucky

### Peace Cuts Savings

**A**DVOCAATES of purchase by the city of the Louisville Gas & Electric Company have based their estimates of savings to the municipality "on an exceptionally high wartime return" which is "certain to suffer tremendous reduction" during the next ten years, L. G. Dahl, the company's rate and research director, said recently.

Speaking at a luncheon of the American Business Club in Louisville, Dahl said re-

moval of the excess profits tax by the government in January will reduce the estimated savings to the city "by substantially more than \$1,000,000" annually.

Supporters of the proposal that the city buy the utility company have based their estimates of savings on the excess profits tax "over a period of the next five years," Dahl said. He added that the volume of sales of electric current and gas by the company, increased by war production, will be "reduced considerably," also.

## Louisiana

### May Retain ODT War Control

**A**LTHOUGH the Office of Defense Transportation no longer requests community compliance with wartime policies, Commissioner of Public Utilities Fred A. Earhart recently recommended that mass transportation regulations in New Orleans remain unchanged for the time being.

The commissioner, who was also chairman of the war transportation committee for the city, suggested that such practices as staggered hours and fewer stopping places for streetcars and busses will result in better transportation in normal times as well as during the war emergency.

"It may be that regulatory authorities and operators will desire to continue them in effect," Mr. Earhart said.

"It should be made clear to the public that

while war emergency controls are being rescinded, the transition from wartime to peacetime status must be gradual, for frequently operators will require time to procure additional equipment and recruit and train drivers.

"I am convinced that the situation in New Orleans requires our following the recommendations of the director of the ODT and that it is in the best interest of the public as a whole that the operations of the mass transportation system remain unchanged for quite some time to come."

The commissioner said the New Orleans Public Service Inc. would require an additional 60 busses before considering abolition of the skip stops on these lines, while shortage of drivers and rundown equipment would hamper going back to the old system on streetcar lines.

## Maryland

### Serving Propane Air

**P**ROPANE air instead of coal gas is being supplied to customers of the Eastern Shore Public Service Company, a company official announced recently.

A petroleum product, the new gas is hotter than manufactured coal gas, which was supplied before, and also gives a more uniform pressure.

Propane air is transported in a liquid form and then reconverted to gas at the plant.

## Michigan

### Fight for Gas

**C**ITY and county officials are pulling together to remove the stoppers from the

natural gas pipe line serving the Detroit area.

In a strongly worded petition filed with the Federal Power Commission at Washington early this month, the officials asked that sev-

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eral provisions of the existing contract between the Michigan Consolidated Gas Company and the Panhandle Eastern Pipe Line Company be declared void.

The provisions under attack are "unjust, unreasonable, unduly discriminatory, and work to the detriment of Detroit area customers," the petition charged.

The bill also asked that the FPC direct the Panhandle Company (the supplying firm) to enlarge its transmission facilities immediately so the local utility may obtain more than the present daily limit of 125,000,000 cubic feet of natural gas.

Another request is that the FPC order the pipe-line company to sell gas to the Michigan Consolidated Gas Company during off-peak seasons for underground storage in now empty Michigan gas wells. The gas would be repiped to Detroit during peak consumption.

Signers of the petition included Corporation Counsel Dowling; Prosecutor O'Brien; James H. Lee, assistant corporation counsel

specializing in utility rate cases; and Harold Goodman, special assistant prosecutor.

Lee pointed out that the contract between the two utilities does not expire until 1951. It was signed on August 31, 1935.

Among its provisions is one requiring the Detroit gas company to maintain its artificial gas-manufacturing plant as stand-by equipment to be used on days when consumption soars above the 125,000,000-cubic-foot mark, Lee said.

The stand-by equipment is carried at approximately \$11,000,000 on the company's books for rate-making purposes," he said. "If the cork is removed from the pipe line, so Detroit can purchase more gas on peak days than the present daily limit, or so gas can be stored during off-peak days for use later, the stand-by plant would no longer be needed.

"Rates for gas would be lower since the company could no longer claim it was entitled to a return on its investment in the stand-by plant."

## Nebraska

### REA Loans Ready

REA loan funds totaling \$3,727,472 will be available for new construction on Nebraska rural public power districts as soon as labor and materials can be obtained, Rural Electrification Administration officials at Lincoln announced recently.

The announcement was made following an REA survey of the work planned by Nebraska's 24 power districts, which are eligible for REA loans. Officials said the proposed projects are expected to supply work for a substantial number of returning servicemen

and recently discharged war plant workers.

Officials said 10 new loans have been allotted to borrowers since VE-Day to finance construction of 1,477 miles of lines, serving 3,030 new consumers. The 3-year postwar program drawn up by the Nebraska borrowers would provide electric service to an additional 24,700 consumers. The program would require \$11,000,000 for construction of distribution lines and \$2,400,000 for the improvement of existing electric systems, construction of generating and transmission facilities, and purchase by rural consumers of farm and home electric equipment.

## New York

### New Rates Filed

THE Consolidated Edison Company's proposed new rate schedule embodying an estimated reduction of \$6,352,600 annually in the electric bills of 15,000,000 consumers in New York city was filed last month by Ralph H. Tapscott, president of the company, with the state public service commission. A hearing on the proposed schedule was held at the commission's office on September 12th.

The proposed reduction originally was announced on July 19th, when the commission approved a merger of the Brooklyn Edison Company and the New York & Queens Electric Light & Power Company into Consolidated. The schedule recently filed outlined how the reduction was to be effected.

Under the proposed lower rates, more than 10,500,000 bimonthly bills in the year will be

reduced 30 cents for 20 kilowatt hours, the minimum bill, to 10 cents for 250 kilowatt hours.

Included in the service classification thus affected are religious, charitable, residential, hospital, and low-cost housing customers, whose bills will be reduced by \$2,496,800 a year. Some 4,500,000 bills of general business and professional users of electricity will be cut by \$3,905,900 annually.

### Warns on Transit Plan

UNTIL New York city's unified transit system produces more revenue the expenditure of capital funds upon the lines should be limited to rehabilitation projects and improvements that will increase economy and efficiency, Budget Director Thomas J. Patterson declared recently in a report submitted

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to Mayor LaGuardia, it has been announced.

The report threw cold water upon the recently announced capital outlay program of the board of transportation, calling for an expenditure of \$165,000,000 in 1946 and a total outlay of \$593,000,000 in the 6-year period from 1946 to 1951, inclusive.

Although Mr. Patterson did not mention a rise in the rate of fare on the unified system, his report left the plain inference that the annual burden on the city's tax budget, caused by the mounting transit deficit under the 5-cent fare, precluded any ambitious capital outlay program that would greatly increase that burden.

"There is definite need," Mr. Patterson said, "for a public works program to rehabilitate existing facilities and to provide essential improvements postponed during the years of the war. Our city must be kept in the forefront among the municipalities of this nation and we must assume our share of the burden of economic readjustment now in progress.

However, I urge that every project approved be measured by our ability to carry through to final completion and operation without undue burden upon the tax budget. An outstanding example is the rapid transit system. Unless and until an increase in revenue can be provided, expenditures should be limited to rehabilitation and such improvements as will increase efficiency and economy. Otherwise there will be a further mounting of the existing deficit, which is now a major item of appropriation and a bone of contention in the expense budget."

The transit deficit being carried in the 1945-46 tax budget is \$47,900,000, and Mayor LaGuardia has predicted that it will pass the \$50,000,000 mark within the next two years, assuming that the fare remains at 5 cents.

### WLB Acts to Avert Strike

REJECTING a union request to renew its contract with the Consolidated Edison Company of New York, the War Labor Board recommended in Washington on September 7th that a dispute between the company and the Brotherhood of Consolidated Edison Employees be referred to the National Labor Relations Board to determine the issue of representation.

### Ohio

#### Ample Gas Supply Assured

COLUMBUS will have an adequate supply of natural gas this winter, Ed Tharp, general manager of the Ohio Fuel Gas Company, predicted recently. Mr. Tharp said the gas company will make no appeals to consumers to save gas. This was done numerous times

The board ruling followed a renewed threat made by leaders of the utility union, formerly independent but now affiliated with the Congress of Industrial Organizations, to take strike action that would close down utility operations in New York city unless the company enters into negotiations.

The company, meanwhile, issued a statement declaring that the September 7th WLB order upheld its position, asking that Consolidated Edison employees be given the opportunity to vote for the CIO, the American Federation of Labor, or an independent union in an election conducted by the NLRB.

Holding that the basic issue was one of representation, the WLB declared:

"In view of the great public interest involved in a peaceful and expeditious resolution of this controversy affecting a public utility, a fair and equitable settlement of the matters in dispute and a firm basis for future stable labor relations can best be achieved by immediate submission to the NLRB of questions regarding representation."

The board's ruling was unanimous.

Joseph Fisher, president of the brotherhood which aligned itself with the CIO several months ago, accused the company of bias in its employment policy. He contended further that the company was cutting down its staff by continual issuance of bimonthly instead of monthly bills, and planned further cuts through the installation of master meters in apartment houses.

In a statement issued on the company's behalf, H. R. Searing, executive vice president, declared: "It is utterly untrue that the Edison system companies have refused to bargain with any labor organization chosen by the employees. The companies at all times have taken the position that they would bargain collectively with any independent or affiliated union chosen in an NLRB election."

#### Utility Rates Cut

ANNUAL savings amounting to about \$150,000 for some 35,000 commercial customers of the Buffalo Niagara Electric Corporation and the Niagara, Lockport & Ontario Power Company will become effective with September billings, William Kelly, president of both companies, announced recently.

during the past two winters, and many war plants were cut off.

"It won't be necessary to ask the public to save gas," Mr. Tharp said. "This winter may have a zero day or two. Then we might have to curtail gas to some industries. But this is in their contracts."

The gas situation is so good, Mr. Tharp

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explained, that the company is seeking new business. The gas company wants to supply Bellefontaine and West Liberty and to switch 13,000 Toledo domestic consumers from artificial to natural gas.

These three factors have helped the Ohio gas supply: (1) Ohio Fuel Gas has in storage 3,400,000,000 more cubic feet than last year. (2) The Panhandle pipe line is

going to furnish the Ohio Fuel 50,000,000 cubic feet per day of western gas through Muncie, Indiana. (3) Beginning October 1st the Ohio Fuel will get 160,000,000 cubic feet of east Texas and Louisiana gas per day from the Tennessee Gas & Transmission Company through Kenova, West Virginia, instead of the 100,000,000 cubic feet that this new wartime pipe line now supplies.

## Oregon

### PUD Shifts Plans

THE Wasco County People's Utility District recently abandoned plans for a special franchise election on the date originally planned, September 18th. W. J. Seufert, PUD president, conceded that because of incomplete legal proceedings it would not be possible to present the franchise proposal to the people until a later date. An appeal from circuit court decisions in mandamus actions is pending before the state supreme court.

The PUD had hoped to obtain an injunction from the supreme court compelling the

city of The Dalles to call the election on the September date. Higher court hearings on the city's two appeals were not scheduled to come up until after the eighteenth of the month.

If such action is sustained by the court, the PUD intends to call an election later. Whether new initiative petitions will be required was a matter not yet determined.

"We intend to abide by the people's expressed desire in previous elections to bring Bonneville power to this community, so that new industries now considering sites here may locate their plants in The Dalles and bring additional payrolls," Seufert declared.

## Pennsylvania

### FPC Approves Proposal

THE Federal Power Commission has approved proposals by the Pennsylvania Power Company of New Castle for the disposition of \$924,824 remaining in plant adjustment accounts and representing write-ups and other excesses of recorded cost over original cost. The commission had previously approved elimination of an additional \$795,637 classified in Account 107, Electric Plant Adjustments, and the company had amortized an amount of \$179,646 classified in Account 100.5, bringing to a total of \$1,900,107 the amounts that will have been eliminated from its electric plant accounts.

The Pennsylvania Public Utility Commission has approved the company's proposals.

Of the \$924,824 involved in the commission's order of September 7th, \$48,087, representing certain excess of recorded cost over

original cost of acquired property and classified in Account 107, was disposed of in 1943 pursuant to an order of the Pennsylvania commission by a charge to Earned Surplus. The company proposes to dispose of the \$50,791 remaining in Account 107 by charges to Reserve for Depreciation of Electric Plant and Earned Surplus.

Of the balance of \$825,945 remaining in Account 100.5 as of December 1, 1943, the company proposes to write off \$46,894 by an immediate charge to Earned Surplus and to amortize the residue of \$779,894 by charges to Account 537, Miscellaneous Amortization, at the rate of \$4,500 per month beginning with December, 1943.

Pennsylvania Power Company, a subsidiary of Commonwealth & Southern Corporation, renders electric service in Ellwood City, Farrell, New Castle, Sharon, and some 45 smaller Pennsylvania communities.

## Texas

### Power Agreement Reached

A 3-YEAR operating agreement between the Houston Lighting & Power Company and Galveston was adopted by the city commis-

sioners recently. The agreement, similar to the one in effect between Houston and the company, was submitted by S. R. Bertron, Houston, president of the concern.

Under terms of the plan, effective as of

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January 1, 1945, the company will pay 2 per cent of its annual gross receipts from the sale of electrical energy and an additional \$11,000 annually as a street-lighting credit. The com-

pany also agrees to pay the city \$13,000 in full payment toward the cost of installing an ornamental street-lighting system on Twenty-fifth street.

## Utah

### Outline Power Sales

**S**ALES executives of the Utah Power & Light Company, conducting a meeting with district managers and salesmen in Ogden, outlined plans for resuming prewar operation as rapidly as possible, it was reported in the press recently.

Officials in attendance included W. A. Huckins, general sales manager; J. F. McAllister, manager of residential sales; J. H. Shaw,

manager of commercial sales; and M. L. Cummings, advertising and sales promotion manager.

Stressed were advisory service to customers, increased attention to farm users, manufacture of more electrical appliances soon, improved lighting.

It was indicated also that now company advertising, which has been largely devoted to patriotic purposes during the war, will be reconverted to informational advertising.

## Washington

### FPC Dismisses Applications

**T**HE Federal Power Commission has dismissed for want of jurisdiction applications filed by Puget Sound Power & Light Company of Seattle for authority (1) to sell or otherwise dispose of all its electric properties, and (2) to issue certain notes in the principal amount of \$15,125,000; or in the alternative dismissal for lack of jurisdiction. The FPC's order of September 6th stated that with the exception of certain war emergency transactions which do not affect the "public utility" status of the company, Puget Sound does not own or operate facilities for the transmission or sale at wholesale of electric energy in interstate commerce within the meaning of the Federal Power Act, and the proposed sale of its electric properties and issuance of securities are not subject to the requirements of §§ 203 and 204.

On February 3, 1943, the commission entered an order, pursuant to § 202(d) of the Federal Power Act, with respect to the company's use of its interconnections with the Washington Water Power Company, the city of Seattle, and Bonneville Power Administration and interconnected systems during the war emergency but not beyond ninety days after the cessation of hostilities. On July 18, 1944, the company was authorized to transmit electric energy from the United States to Canada for the purpose of relieving a war emergency situation on the electric system of British Columbia Electric Railway Company, Ltd., which service and interconnection is to be terminated ninety days after the cessation of hostilities.

In 1942 the company was granted a presidential permit to import from Canada a small amount of energy annually for local

distribution in Point Roberts, Washington. All these transactions, the order stated, were authorized without causing the company to be a "public utility."

At a public hearing held August 21, 1945, in Washington, to determine whether the Puget Sound Company is a "public utility" as defined in § 201 of the Federal Power Act, no requests to introduce evidence were received in response to previously published notices and no one appeared to be heard on the jurisdictional issue other than commission counsel.

Puget Sound Power & Light operates in all or parts of 18 counties in the western section of Washington.

### Utilities Show Profit

**T**HE average revenue per kilowatt hour from residential customers during March, 1945, was \$1.65 from private utility firms and \$1.43 for publicly owned power firms, the state department of public utilities reported recently.

Both private and public power producers trimmed costs. The private companies reported a decrease of 6.8 per cent and the public plants slashed 7.7 per cent from the preceding month of March.

Total sales of light and power by all companies in March was \$6,007,609, a gain of 6.6 per cent over March, 1944.

Private companies averaged 398,504 customers, a gain of 2.3 per cent, and public companies had 214,392 customers, a 3.9 per cent increase.

As of March, public companies were delivering current to 188,375 residential customers and private companies were selling to 339,272 residential users. This represented a slight increase for both.

# The Latest Utility Rulings

## Transfer of Electric Properties to Coöperatives and City Approved



**A**n application for approval of the sale by Associated Electric Company of all the securities and long-term indebtedness of Missouri General Utilities Company to the city of Rolla and five coöperatives was approved by the Missouri commission. The commission also approved dissolution of Missouri General Utilities and distribution of its assets among the coöperatives and Rolla; issuance of certain notes and stock and execution of certain deeds of trust by two of the coöperatives; and the exercise by these coöperatives of their corporate franchises and their operation of the properties.

Associated, an intermediate holding company and subsidiary of Associated Gas & Electric Corporation, was to be disposed of pursuant to § 11(b)(1) of the Holding Company Act, and a contract between the parties mentioned in this proceeding was the means adopted.

The commission proceeded on the theory that if a proposed transfer is in the public interest or is not detrimental thereto, and if the means employed are lawful and purchasers have a charter right to own and operate, a transfer should be approved. It was held that the city of Rolla could lawfully acquire the facilities notwithstanding a new constitutional provision prohibiting a city from owning or subscribing for stock in a corporation. The commission referred to the ruling in *City of Springfield v. Monday* (1945) 185 SW(2d) 788, where it was held that a city may acquire facilities by means of acquisition of common stock and dissolution of the corporation owning the facilities. The commission thought that the prohibition against "ownership" of stock was not intended to prohibit acquisition of stock which was

to be followed by immediate dissolution of the corporation. At all events, it was said, the city of Rolla had voted its bonds and entered into this contract prior to adoption of the new constitution, and that constitution provided that rights and obligations existing and all contracts entered into prior to its adoption should continue to be valid.

The corporate capacity of coöperative purchasers to own and operate such properties, said the commission, is determined by an examination of the corporate charters, as the same are certified by the Secretary of State. Such corporations presumably have the powers granted to them by their charters. Corporate power is not an issue in determining the public interest, but is properly to be raised by a direct *quo warranto* proceeding and not collaterally. Reference was made to *Re Missouri Electric Power Co.—Sho-Me Co-op* (1943) 50 PUR(NS) 257, 273, where the commission discussed the matter.

Two of the coöperatives were incorporated to serve their members but had recently amended their articles of incorporation to permit them to serve the public generally in respect to facilities which they might acquire from public utility corporations.

Although the cases sustained the right of such dual operations, the commission condemned such a venture. It would not be in the public interest to approve a service of the same kind to be regulated as to public consumers and unregulated as to members, since the commission would control rates to be charged to the former while the coöperatives would fix rates to members. The commission did not deem it necessary to deny the application and have long hearings re-

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peated, but it approved the application as to these co-operatives upon the condition that they reincorporate or amend their charters so as to be authorized to serve the public generally as to all their facilities.

As to two other co-operatives the commission stated its policy of requiring conversion under the provisions of the Rural Electric Cooperative Act, § 5386 *et seq.* The commission has required such conversions to be made mainly to retain jurisdiction over the safety features of the facilities.

Proposed loans by co-operatives which

would be public utilities as to all their properties were held subject to commission approval. Loans at 2 per cent interest from the Rural Electrification Administration were approved, although capital equity would be a smaller percentage of capital structure than generally approved by the commission. The stockholders, each having a \$5 investment and primarily interested in service, would not, in the opinion of the commission, be dividend minded. The lender, REA, would be capable of taking care of its own interests. *Re Associated Electric Co. et al. (Case No. 10,600).*



### State Treated As Unit for Purpose of Fixing Natural Gas Rates

**A**n application of Godfrey L. Cabot, Inc., for authority to increase rates for industrial gas service in certain counties of West Virginia was dismissed by the West Virginia commission. The commission determined that the company was earning a return of slightly less than 7 per cent on original cost of property less depreciation. The return would be 8.59 per cent if the allowance for depreciation, amortization, and depletion were reduced to provide 5 per cent on original cost, the maximum composite percentage allowed by the commission in natural gas proceedings.

The commission stated:

Upon consideration of all which the commission is of the opinion and finds that the applicant's business in West Virginia should be treated as a whole, for the very good reason that even if one segment is not as profitable as it should be, the profits from another may be excessive, and it follows that if the revenue from the one should be increased, the revenue from the other should be reduced; and that, since the applicant's business in West Virginia as a whole is shown to be remunerative to the extent hereinbefore mentioned, the motion of the protestants and intervener made herein should be sustained and the schedule of rates filed herein should be canceled and this proceeding dismissed.

*Re Godfrey L. Cabot, Inc. (Case No. 2986).*



### Use of Bond Proceeds Out of State Not Shown When Funds Mingled

**T**HE New York commission, in an investigation of bond issues of the Western Union Telegraph Company, concluded that it had jurisdiction of the issuance of securities to refund \$25,000,000 face value of 5 per cent bonds issued in 1926 and of securities to refund \$35,000,000 face value of 5 per cent bonds issued in 1930. The company had claimed exemption under § 101 of the Public Service Law on the ground that the refund-

ing debentures would not be issued for any of the purposes stated in the Public Service Law in the state of New York and that the proceeds obtained by the issue of the bonds in 1926 were not used for expenditures within the state.

The company had in the first place proposed to issue convertible debentures which would be convertible into class A stock. It requested the commission to endorse its consent and approval upon a

## THE LATEST UTILITY RULINGS

certificate of an increase in the authorized shares of class A stock pursuant to § 36 of the Stock Corporation Law. After the commission expressed the opinion that the bond issue would also be subject to its jurisdiction, the company decided not to issue convertible debentures and withdrew its petition. The commission thereupon instituted its investigation to determine the question of jurisdiction over the company's bond issue.

The evidence showed that \$20,000,000 of the \$25,000,000 bond issue was not placed in the general funds of the company but was loaned to brokerage houses for purposes not connected with utility operations. The company contended that the proceeds were used to reimburse the treasury for expenditures previously made for additions, improvements, and extensions to plant outside the state, and that if this fact were established the commission had no jurisdiction over the issuance of securities to refund the bonds. The resolution adopted by the executive committee before the bonds were issued or authorized by the stockholders indicated that the company contemplated loaning a part of the proceeds to brokerage houses.

It was argued that since the bond indenture stated the purpose of the issue—namely, to reimburse the treasury for outside expenditures — this was proof that commission jurisdiction did not extend to the refunding. But the indenture, said Chairman Maltbie, delivering the commission opinion, was not a statement of what actually happened. At best it was only a statement of purpose or intention and the difference between fact and intent has "been known from time immemorial." Furthermore, the resolution mentioned was said to be significant.

Counsel finally stipulated that some of the proceeds may have been used for construction purposes in the state of New York. Commenting on this, Chairman Maltbie said:

It is possible that this concession disposes of the entire question, for the burden of proof is on the company and if it admits that some of the proceeds from the issues

of securities to be refunded *may have been* used for construction purposes in the state of New York, the commission would nullify the whole purpose of the statute; namely, to provide administrative control by the state over the issuance of securities by utilities operating in the state if it were to ignore the burden of proof and decide it had no jurisdiction.

It was further urged that a large amount was spent for facilities outside the state and such expenditures in a few years prior to 1926 were in excess of funds obtained from the bond issue, and that it must be concluded that no funds went into New York but all went elsewhere.

Chairman Maltbie declared that this was pure inference, and, even if the amounts were exactly as stated, there would be no proof of the claim. There was no complete segregation of funds. He continued:

The situation is amply illustrated by a water reservoir into which water flows from various sources through various pipes. Out of the reservoir water is drawn through various pipes for various purposes. How can anyone assert that the water flowing into the reservoir from one source goes to any one of the uses for which the reservoir is drawn upon?

Although it was said to be possible that the propriety of the lending practices had no direct relevancy to the determination of the jurisdiction of the commission, this matter was said to be important in considering the dependability of the company records and the testimony of officials in substantiating claims as to the purposes for which funds were raised by an issuance of bonds. Chairman Maltbie said that the propriety and legality of such practices are not to be determined by their financial success or loss. He added the following statement:

Suffice it to say that in no bond issues approved by this commission have such practices been permitted and our orders approving the issuance of securities are strictly in accord with the requirements of statute in which the purposes for which securities may be issued are specified, and there is no mention of loans to brokerage houses to finance their own operations.

*Re Western Union Telegraph Co. (Case 11693).*

## PUBLIC UTILITIES FORTNIGHTLY

### Rate Increases for Dial Telephone Service Not Viewed As Inflationary

THE North Carolina commission authorized conversion to automatic dial telephone service and the institution of adjusted rate schedules which would result in a relatively small revenue increase. Representatives of the OPA testified to inflation in general and to its danger to economic stability. The opinion was expressed that the government stabilization program would be affected unfavorably by the proposals of the company.

The commission said that it was fully aware of the danger and baneful effects of inflation, and it was particularly gratified by the fact that utilities under its jurisdiction had contributed nothing to existing inflation. The average price on commodities, according to governmental figures, was 38.78 per cent. There had been no increase at all in the average telephone, electric, and gas rates in North Carolina, but, on the contrary, the average was lower because of rate reductions.

In the instant case, said the commission, it appeared that the OPA was un-

duly alarmed as it was apparent to the informed that the proposed rates, in the main, were normal natural rates. It was obvious that the proposed change from magneto service to automatic dial type was highly desirable and in the public interest.

Furthermore, as the cost of service as a whole was to be no greater than at present, the change instead of being retarded or prevented should be speeded. Telephone users were anxious for change to dial system.

In the case of the Jacksonville exchange there had been a quick transformation from a small peacetime village to an enlarged bustling wartime community, the focal point of a great government Army camp, with a greatly enlarged telephone population. It was said to be apparent that the large expansion and large expenditures which had been made at Jacksonville entitled the company to an increase over present rates. *Re Carolina Telephone & Telegraph Co. (Docket No. 3297).*



### Completed Transfer of Property to City Approved by Commission

THE Missouri commission, holding that it lacked jurisdiction to unscramble completed transactions and restore the status quo ante, dismissed its investigation of an unauthorized transfer of utility property to the city of Springfield and authorized Springfield Gas & Electric Company to be dissolved and liquidated and its assets and properties to be conveyed, distributed, and transferred to the city. Commissioner Wilson, in a dissenting opinion, declared that a deed from the company to the city purporting to convey all properties was a nullity and that the city had no authority to conduct a public utility business outside city limits. The properties conveyed included some outside properties.

The commission, in *Re Springfield* (1945) 58 PUR(NS) 237, had granted an application by the city for authority, immediately upon acquisition of the common stock of the company, to cause the corporation to be dissolved and liquidated and its net assets and properties to be transferred to the municipality and permitting the corporation to cease operation as a public utility. Thereafter the commission granted motions for rehearing, setting aside the report and order.

Nevertheless, the city had acquired the common stock, elected its own board of directors and officers, secured a conveyance of the property to the city, and had taken steps purporting to dissolve the corporation. All the necessary steps to

## THE LATEST UTILITY RULINGS

consummate these transactions were fortified by ordinances and minutes of the city council meeting.

The commission, in *Re Springfield Gas & E. Co.* (1945) 58 PUR(NS) 252, ordered the company to show cause why it had disposed of its property without authorization. These cases were combined for hearing, and the commission issued its opinion, in which it was said that there is no statute which requires permission from the commission before the city could acquire the stock, but before there could be any transfer of facilities it was necessary that there be obtained an order approving the transfer.

The commission stated:

No disposition which it is possible for us to make of these two cases can remove the city from this picture. If in Case No. 10,614 we approve the application the city will directly own the properties. If we refuse to approve the application or should, in Case No. 10,628, order the Springfield Gas & Electric Company to cease in its efforts to dissolve and order it to take over and to operate the properties, the city would still remain the sole owner of the incorporated Gas & Electric Company which owns the property. And if the city undertook to operate the corporation, although its owner, it would be conducting an *ultra vires* operation. *Springfield v. Monday* (1945) 185 SW(2d) 788. If this application is approved the protestants insist that the city's operation as proposed beyond the city limits will be illegal and likewise an *ultra vires* operation.

It was concluded that the commission was bound by a statutory interpretation by the supreme court giving the city authority to operate beyond city limits.

[See *City of Springfield v. Monday* (1945) 185 SW(2d) 788.] The commission would not discuss an argument that the court ruling was mere *obiter dictum* nor speculate on the possibility that at some future time it might be modified or overruled. It was said to be sufficient that if this should occur while the city was operating outside its borders, such operation would be *ultra vires* only as to such outside properties, constituting only about 5 or 6 per cent of the entire properties. Also in that event operations outside the city could be continued by a qualified operator to whom the city might sell the facilities.

It had been suggested that the operations might "get into politics." The commission said that it should not deny the application on the theory that the people of the city were incapable of self-government.

The commission, in its original authorization, had imposed a condition that preferred stock be called at its "call price" of \$115 per share. On the later hearings it seemed to be agreed that the commission would have no jurisdiction to impose such a condition, and that point dropped out of the case. Under agreement of the parties the difference between liquidating price of \$100 and the call price of \$115 was deposited with a bank in escrow in order to protect rival claimants while the issues between them respecting the retirement price could be litigated. *Re City of Springfield et al.* (Case Nos. 10,614, 10,628).



### State Commission Uses FPC Rate Study in Reduction Negotiations

THE Georgia Public Service Commission has entered an order reducing the residential rates of the Georgia Power Company \$1,194,000 a year. The statewide reductions range from 7.3 per cent to 25 per cent, the average reduction to all consumers being 12½ per cent. The Georgia Power Company has 243,586 residential consumers and provides service in over 400 communities in that state,

in addition to the service extended throughout rural areas. In May, 1944, the state commission, following informal conferences, reduced the company's commercial and wholesale resale rates in the amount of \$1,058,000 per year. A second order was issued on December 21, 1944, requiring the refund or cancellation of all bills rendered during the month of December to residential and street-lighting

## PUBLIC UTILITIES FORTNIGHTLY

customers, thus effecting a temporary rate reduction for the year 1944 of an additional \$952,321.

The commission undertook negotiations leading to the recent reduction on May 11, 1945. During the course of negotiations the commission made use of the Federal Power Commission's list of typical electrical bills for 1945, pointing out to the company that its favorable position had declined in the comparison of its residential rates with those in effect in cities throughout the United States of 50,000 population or more. Under the new rate which the state commission has now prescribed, this former favorable position is more than regained. For ex-

ample, the cost for a consumption of 25 kilowatt hours anywhere throughout the Georgia Power Company's territory is reduced from eighty-second to sixteenth place from the lowest in the entire group of 216 cities listed.

The commission's order contained the following statement:

This reduction is ordered by the commission in the face of the contention of company that the natural lessening of demand following the war's end might conceivably be sufficient to make necessary a request by the company for increased rates in the future. The commission, however, is more sanguine as to the economic future of our section . . .

*Re Georgia Power Co.*



### Other Important Rulings

**A**UTHORITY to transfer gas property was held by the New York commission to be in the public interest principally because it insured an adequate supply of gas at dependable pressures, particularly in winter peak demand periods, and because it took gas service in the area out of the hands of a relatively small and weak gas department and placed it in the hands of a company whose only business was rendering gas in the area, it appearing that the cost of necessary additional gas to the purchaser would be less than to the seller and service should be improved, while the transfer price (less than original cost depreciated) appeared to be reasonable. *Re New York State Electric & Gas Corp.* (Case 11922).

The Alabama Supreme Court, reversing a decree which vacated a commission order denying authority to operate a motor carrier service, held that such an order must be taken to be *prima facie* just and reasonable on appeal, that the present and future need in the matter of travel is the major inquiry, that the word "necessity" relating to certificates does not mean essential or absolutely indis-

pensable, and that the commission in determining the public needs must consider the fact that territory is served by other carriers. *Alabama Public Service Commission et al. v. Crow*, 22 So(2d) 721.

A Federal court was not deprived of jurisdiction of an action under § 6 of Part I of the Interstate Commerce Act against a freight forwarder to recover freight undercharges by § 419 of Part IV of the act providing that no person shall be subject to any liability on account of a prior act in connection with the charging, receipt, or payment of rates of freight forwarders, or joint rates or divisions between freight forwarders and common carriers by motor vehicle. *White v. Atchison, Topeka & Santa Fe Railway Co.* 149 F(2d) 919.

The New York commission has held that a finding that public convenience and necessity require permanent operation is prerequisite to the issuance of a certificate, and abnormal conditions may not be used as a basis upon which to issue permanent authority. *Re Adirondack Transit Lines, Inc.* (Case 8632).

NOTE.—The cases above referred to, where decided by courts or regulatory commissions, will be published in full or abstracted in *Public Utilities Reports*.

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# Public Utilities Reports

COMPRISING THE DECISIONS, ORDERS, AND  
RECOMMENDATIONS OF COURTS AND COMMISSIONS

VOLUME 59 PUR(NS)

NUMBER 5

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RE BONNEVILLE PROJECT

FEDERAL POWER COMMISSION

## Re Bonneville Project

Docket No. IT-5955  
June 26, 1945

**A**LOCATION of costs of Bonneville Project and transmission system; determination made.

*Apportionment, § 65 — Government project — Allocation of cost — Navigation and power.*

Allocation to power facilities of 50 per cent of the cost of facilities having joint value for navigation and power was held to be consistent with the intent of Congress as expressed in the Bonneville Act (directing the completion, maintenance, and operation of a project for the purpose of improving navigation and for purposes incidental thereto), giving recognition to the parity in importance of low-cost transportation and power to the development of the resources of the region.

*United States, § 9 — Power project.*

Discussion of Bonneville Act, approved August 20, 1937, 50 Stat 731, authorizing and directing completion, maintenance, and operation of Bonneville project for purpose of improving navigation on the Columbia river, and for other purposes incidental thereto, including the generation of electric energy, p. 258.

*Rates, § 321 — Electric — Federal power project.*

Discussion of provisions of the Bonneville Act relating to rate schedules of Federal power project, p. 258.

*Expenses, § 33 — Amortization of project cost — Federal power.*

Discussion of provisions of Bonneville Act relating to rate schedules for Federal power project to provide for amortization of capital investment over reasonable period of years, p. 258.

*Return, § 26 — Cost of money — Federal power project.*

Finding by Federal Power Commission that weighted average cost of money to the United States, obtained by the issuance of bonds during the period 1933 to 1943 inclusive, within which Bonneville project was substantially completed, approximated 2.5 per cent, p. 260.

*Valuation, § 67 — Original cost determination — Federal power project.*

Finding by Federal Power Commission under Bonneville Act as to government investment in Federal power projects, p. 260.

*Rates, § 321 — Electric — Government power project — Bonneville Act.*

Text of §§ 6 and 7 of Bonneville Act relating to rate schedules for sale of electric energy generated at Bonneville project, p. 262.

*Apportionment, § 65 — Government project — Navigation and power — Power as incidental byproduct.*

Discussion, in dissenting opinion of Federal Power Commissioner, of the

## FEDERAL POWER COMMISSION

question of treating power as an incidental by-product of government project for navigation and power, p. 294.

(SMITH, Commissioner, dissents.)

By the COMMISSION:

### *Allocation of Costs*

The Congress, by the Bonneville Act approved August 20, 1937 (50 Stat 731), hereinafter referred to as the Act, authorized and directed the completion, maintenance, and operation, under the direction of the Secretary of War and the supervision of the Chief of Engineers, of the Bonneville project for the purpose of improving navigation on the Columbia river, and for other purposes incidental thereto including the generation of electric energy.

The Act, 16 USCA §§ 832—832*l*, provides for the appointment, by the Secretary of the Interior, of an Administrator to be responsible for the disposition of the electric energy thus generated and not required for operation of the project works. It further provides in § 2(b) that, in order to encourage the widest possible use of such electric energy and to provide reasonable outlets therefor, and to prevent monopolization thereof by limited groups, the Administrator is authorized and directed to provide transmission facilities for delivery of the energy to existing and potential markets.

Section 6 of the Act provides that, subject to confirmation and approval by the Federal Power Commission, rate schedules shall be fixed and established by the Administrator "with a view to encouraging the widest possible diversified use of electric energy." Section 7 states that it is the intent

of Congress that such rate schedules "shall be determined with due regard to and predicated upon the fact that such electric energy is developed from water power created as an incident to the construction of the dam in the Columbia river at the Bonneville project for the purposes set forth in § 1 of this Act."

On the basis of this expression of the intent of Congress, § 7 then provides further that rate schedules shall be drawn having regard to the recovery (upon the basis of the application of such rate schedules to the capacity of the electrical facilities of Bonneville project) of the cost of producing and transmitting such electric energy, including the amortization of the capital investment over a reasonable period of years.

The intent of Congress, as to the basic considerations which should guide the Commission in its determination of such allocation of costs, is set forth in language consistent with the above-summarized statements of purpose, as follows: "In computing the cost of electric energy developed from water power *created as an incident to and a by-product of the construction* of the Bonneville project, the Federal Power Commission may allocate to the costs of electric facilities such a share of the cost of facilities having joint value for the production of electric energy and other purposes as the power development may fairly bear as compared with such other purposes."

## RE BONNEVILLE PROJECT

The capital investment to be amortized over a reasonable period of years will, therefore, comprise (a) the entire cost of facilities at the Bonneville project having value solely for power purposes; (b) the share of the cost of facilities at the Bonneville project having joint value for power and other purposes allocated by the Commission to electric facilities, and (c) the cost of transmission facilities required by § 2(b) of the Act. A "Joint Report on Allocation and Repayment of the Costs of the Columbia Basin Project," approved and adopted by the Secretary of the Interior on January 31, 1945, also proposes to make revenues derived from the sale of Bonneville power responsible for interest and amortization on \$4,826,129 of investment in the Grand Coulee project in payment for benefits received from Grand Coulee storage.

On February 8, 1938, when construction of the Bonneville project, including the dam, locks, and appurtenant works for the purpose of improving navigation, and the initial power plant with two generating units, was substantially completed, the Commission made an allocation of costs subject to later revision and readjustment. This preliminary allocation was designed to facilitate plans for the marketing of power from the two initial units.

The entire power installation, consisting of ten main generating units of 518,400 kilowatts aggregate rated capacity and a 4,000 kilowatt house unit, has now been completed and has been in service since December 14, 1943. The project is about 97.8 percent completed, it being estimated by the Corps of Engineers, U. S. Army,

that an additional expenditure after June 30, 1944, of \$1,901,000 will be necessary to complete it.

The Commission has, therefore, proceeded with the determination of a revised allocation which will be final except for such portions of additional expenditures, necessary to complete the project and transmission system, as the Commission may allocate to the costs of Bonneville electric facilities.

Bonneville project costs are kept and recorded by the Corps of Engineers, U. S. Army, in accordance with the Commission's Uniform System of Accounts. By letters dated December 20, 1944, and February 7, 1945, the Corps of Engineers supplied the Commission with data respecting the capital costs of the project as of June 30, 1944, together with estimates of additional costs necessary to complete the project.

The capital costs of the transmission facilities are kept and recorded by the Bonneville Power Administration. By communications dated September 25, 1944, March 4, 1945, and June 7, 1945, that agency supplied the Commission with information showing the capital costs incurred for these transmission facilities to June 30, 1944, together with estimates of capital costs necessary for completion of such facilities.

Both the above agencies also supplied the Commission with other data, including estimates of annual costs of operation and maintenance. Furthermore the Corps of Engineers, U. S. Army, supplied estimates of the cost of hypothetical alternative single purpose projects for navigation and for power development and expressed the view that navigation might fairly bear

## FEDERAL POWER COMMISSION

the specific navigation costs plus one-half of the cost of joint facilities.

The Commission's staff has analyzed all available data and information and has made field investigations and office studies concerning the various aspects of the Bonneville project and its related transmission facilities. On the basis of these studies, the Chief Engineer has prepared and submitted a report, dated June 15, 1945, entitled "Bonneville Project and Transmission System, Allocation of Costs."

The Commission having considered the matters hereinabove recited, and other pertinent data relating to said project, together with all of the provisions and requirements of the Act, finds that:

(1) The weighted average cost of money to the United States, obtained by the issuance of bonds during the period 1933 to 1943 inclusive, within which the project was substantially completed, approximated 2.5 per cent.

(2) The Bonneville dam and reservoir, the permanent buildings and grounds, and the fishways, are facilities having a joint value for the production of electric energy and other purposes of the Bonneville project.

(3) The capital costs of the Bonneville project to June 30, 1944, including interest during construction at the rate of 2.5 per cent per annum, totalled \$83,709,430.33 of which \$5,784,055.16 was incurred for facilities solely for improvement of navigation; \$37,861,648.33 for facilities solely for the development of power; and \$40,243,726.84 for facilities having joint value for the production of electric energy and other purposes.

(4) The final capital costs of the Bonneville project, as nearly as can

now be determined, will total \$85,611,000, divided as follows: navigation facilities \$6,535,000; power facilities \$38,340,000; and joint facilities \$40,736,000.

(5) The cost of an alternative single purpose power project is estimated by the Corps of Engineers, U. S. Army, at \$69,383,000 and of an alternative single purpose navigation project at \$37,444,000. These estimates are for hypothetical projects at the Bonneville site, with normal pool at elevation 72 as at present, and were prepared at the request of the Commission.

(6) The capital cost to June 30, 1944, of the transmission facilities constructed or otherwise provided pursuant to § 2(b) of the Act designated by the Bonneville Power Administration as "Transmission System for Marketing Power from Bonneville Dam"), as reported by the Administrator, with minor modifications recommended by the Chief Engineer of the Commission, totaled \$28,324,922. The final cost of such facilities is estimated at \$40,000,000.

(7) A portion of the total cost approximating \$3,000,000 may be considered as representing increased cost attributable to prosecution of work on the Bonneville project for relief of unemployment under the National Industrial Recovery Act (48 Stat 195). Similarly, a portion approximating \$2,715,000 may be considered as increased cost due to expediting installation of generating units by the War Department as a National Defense measure.

(8) Recognition of the parity in importance of low-cost transportation and power to the development of the

## RE BONNEVILLE PROJECT

resources of the region, through allocation to power facilities of 50 per cent of the cost of facilities having joint value for navigation and power, is consistent with the intent of the Congress as expressed in the Act.

Upon consideration of the above findings and the report of the Chief Engineer of the Commission, dated June 15, 1945, the text of which is attached hereto, and in the light of the provisions and requirements of the Bonneville Act, the Commission hereby makes the following determinations as to the portions of the costs of the Bonneville Project and of related transmission facilities properly allocable to the capital investment required for producing and transmitting electric energy developed from water power created as an incident to and a by-product of the construction of the project:

(A) The amount of \$20,121,800 of the \$40,243,726.84 incurred prior to July 1, 1944, for facilities at the Bonneville Project having joint value for the production of electric energy and other purposes, is hereby allocated to electric facilities.

(B) The determination in paragraph A, together with the \$37,681,648.33, representing capital costs incurred at the Bonneville Project, for facilities having value solely for power purposes, and the \$28,324,922, representing capital costs incurred for transmission facilities pursuant to § 2(b) of the Act, constitute an aggregate of \$86,128,370.33 as the capital investment as of July 1, 1944, to be amortized out of revenues from Bonneville power.

(C) This determination shall be final in so far as costs incurred prior to July 1, 1944, are concerned. Supplemental allocations will be made by the Commission to include costs incurred subsequent to June 30, 1944, in completing the Bonneville Project and its transmission and other appurtenant facilities.

Commissioner Smith dissenting.  
[Opinion on page 293.]

### Report of Engineers

*Bonneville Project and Transmission System allocation of costs as basis for schedules of rates and charges for Bonneville electric energy, predicated upon the completed installation in the Bonneville Power Plant ten main generating units, rated capacity 518,400 kilowatts, maximum capability 582,000 kilowatts, transmission facilities as required by Bonneville Act.*

June 15, 1945

*To: Federal Power Commission  
Subject: Allocation of Costs, Bonneville Project, Columbia River, Oregon-Washington*

1. Under the provisions of an Act of Congress approved August 20, 1937 (50 Stat 731), Public 329, 75th Congress, hereinafter called the Act, it is the duty and responsibility of the Federal Power Commission to make an "allocation of costs,"<sup>1</sup> upon the basis of which schedules of rates and charges for the sale of electric energy generated at the Bonneville project shall be prepared, fixed, and established. Included in such allocation of

<sup>1</sup> "Rate schedules shall be based upon an allocation of costs made by the Federal Power

Commission"—Section 7 of the Act, 16 USCA § 832f.

## FEDERAL POWER COMMISSION

costs will be the entire cost of the facilities provided solely for power purposes at the Bonneville project; the entire cost of the electric transmission lines and substations, and appurtenant facilities, required by § 2(b) of the Act, 16 USCA § 832a(b), and such share, if any, of the costs of those facilities at the Bonneville project having joint value for power development and other purposes, as the Commission may allocation to electric facilities.<sup>2</sup> In the process of making the aforementioned allocation of costs, the Commission will necessarily determine, as nearly as may be, "the cost of producing and transmitting such electric energy, including the amortization of the capital investment over a reasonable period of years," as required by the Act.

2. Under § 6 of the Act schedules of rates and charges prepared by the Administrator must be confirmed and approved by the Federal Power Commission before they may become effective.

3. In view of the interrelationship between §§ 6 and 7, 16 USCA §§ 832e, 832f, and for the convenience of the Commission, the full text of these two sections is quoted below:

Section 6. Schedules of rates and charges for electric energy produced at the Bonneville project and sold to purchasers as in this Act provided shall be prepared by the Administrator and become effective upon confirmation and approval thereof by the Federal Power Commission. Subject to confirmation and approval by the Federal Power Commission, such rate schedules may be modified from time

to time by the Administrator, and shall be fixed and established with a view to encouraging the widest possible diversified use of electric energy. The said rate schedules may provide for uniform rates or rates uniform throughout prescribed transmission areas in order to extend the benefits of an integrated transmission system and encourage the equitable distribution of the electric energy developed at the Bonneville project.

Section 7. It is the intent of Congress that rate schedules for the sale of electric energy which is or may be generated at the Bonneville project in excess of the amount required for operating the dam, locks, and appurtenant works at said project shall be determined with due regard to and predicated upon the fact that such electric energy is developed from water power created as an incident to the construction of the dam in the Columbia river at the Bonneville project for the purposes set forth in § 1 (§ 832) of this act. Rate schedules shall be drawn having regard to the recovery (upon the basis of the application of such rate schedules to the capacity of the electric facilities of Bonneville project) of the cost of producing and transmitting such electric energy, including the amortization of the capital investment over a reasonable period of years. Rate schedules shall be based upon an allocation of costs made by the Federal Power Commission. In computing the cost of electric energy developed from water power created as an incident to and a by-product of the construction of the Bonneville project, the Federal Power Commission may allocate to the costs of elec-

<sup>2</sup> Last sentence of § 7 of Act.

## RE BONNEVILLE PROJECT

tric facilities such a share of the cost of facilities having joint value for the production of electric energy and other purposes as the power development may fairly bear as compared with such other purposes.

4. Section 1 of the Act provides for the completion, operation, and maintenance of the Bonneville project "for the purpose of improving navigation on the Columbia river, and for other purposes incidental thereto." Power development is the only *other purpose* mentioned in the Act, and it appears that no other incidental purposes are directly served by the project.<sup>3</sup> Flood-control benefits are negligible, and no plan or suggestion has been advanced for using the impounded waters for irrigation purposes. Irrigation is practiced but little if at all in the valley below the dam.

### Definitions

5. The term "Bonneville project" means "the dam, locks, power plant, and appurtenant works" constructed by the United States on the Columbia river at Bonneville, Oregon, and North Bonneville, Washington (§ 1 of Act).

6. "Bonneville transmission system" means the electric transmission lines and substations, and facilities and structures appurtenant thereto, which the Administrator is authorized and directed by § 2(b) of the Act to construct or otherwise provide for the purposes set forth in the Act.

7. The term "electric facilities" means all of the electric power facil-

ties and related general facilities required by the Act for the generation and for the transmission and sale or interchange of all electric energy that can be generated at the Bonneville project in excess of the amount required for operating the dam, locks, and appurtenant works at said project.

8. "Bonneville Power Administration" (abbreviated BPA) is the name given to the office and organization established in the Department of the Interior for the administration of the Act, under the supervision of the Administrator (see references in Appropriation Act for fiscal year 1941, 54 Stat 410, and subsequent appropriation acts; also in Executive Order 8526).

### Interest Rate and Amortization Period

9. In the preparation of this report an interest rate of 2.5 per cent per annum<sup>4</sup> has been used for all purposes involving interest calculations in connection with the Bonneville project and the Bonneville transmission system, and fifty years, beginning July 1, 1944, adopted as a "reasonable period of years" over which to recover the government's capital investment in electric facilities, as required by § 7 of the Act. Use of both the 2.5-per cent interest rate and the 50-year amortization period has been agreed to by the Bonneville Power Administration and approved by the Commission.

<sup>3</sup> During the early part of the construction period the project contributed moderately to unemployment relief; hence that purpose was served temporarily. It might be observed also that the project proved to be very valuable for the purposes of national defense.

<sup>4</sup> This interest rate approximates the average weighted cost of money to the United States obtained by the issuance of bonds during the 11-year period, 1933 to 1943.

## FEDERAL POWER COMMISSION

### *General Information*

10. The Bonneville project was constructed and is being maintained and operated by the Corps of Engineers, U. S. Army (U. S. Engineer Department), under the direction of the Secretary of War and the supervision of the Chief of Engineers. The power output is delivered at the plant bus to the Bonneville Power Administration and is transmitted and marketed by that agency under the direction of the Secretary of the Interior and the supervision of the Administrator. Under Presidential Executive Order 8526, dated August 26, 1940, the Bonneville Power Administration is also responsible for the transmission and sale of electric energy generated at the Grand Coulee project. In addition to transmission facilities thus far constructed or otherwise provided by the Administrator for marketing Bonneville power, a larger system has been partially constructed, principally in the state of Washington, for marketing the Grand Coulee power output.

11. Construction of the Bonneville project was commenced on or about October 1, 1933, under the National Industrial Recovery Act, as Public Works Administration Project No. 28. It was specifically authorized by Congress in the River and Harbor Act approved August 30, 1935. The dam and ship lock were practically completed by June 30, 1938, and the installation of generating equipment in the hydroelectric power plant was completed in December 1943, when the tenth and last main generating unit commenced operation. It has been estimated that as of July 1, 1944, 97.8 per cent of the Bonneville project

costs had been incurred. Temporary deferment during the war period of work yet to be done results in no appreciable functional impairment of any of the project works.

12. Although it had long been recognized that a dam below Cascade Rapids would be an essential feature of any acceptable general plan for development of the water resources of the Columbia Basin, the commencing of construction of the Bonneville project in the autumn of 1933 was occasioned by the efforts of the Federal government to relieve the prevailing widespread unemployment in the country, and promote recovery from a business depression of unprecedented severity. The work was started before project plans were prepared or exact locations for the project structures determined, and this procedure, while deemed justified in the circumstances, apparently resulted in somewhat higher project costs than might normally have been expected.

13. The Bonneville dam, power plant, and ship lock are located in and across the Columbia river at Bonneville, Oregon, and North Bonneville, Washington (mile 145.3),<sup>8</sup> in Multnomah county, Oregon, and Skamania county, Washington, at Bradford island near the foot of Cascade Rapids, and at the head of tidewater; about 42 miles easterly from Portland, and 44.1 river miles below The Dalles.

14. The Columbia river rises in Columbia lake, British Columbia, on the western slope of the Rocky mountains, and flows in a northwesterly direction about 200 miles to the mouth of Canoe river at the bight of the Big

<sup>8</sup> Mileage figures indicate river distance above the mouth of the river.

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Bend, where it makes an abrupt turn to the south, passes the city of Revelstoke, B. C., flows through very long flat-slope expansions known as Upper Arrow lake and Lower Arrow lake, and after being joined first by the Kootenay river and then by the Pend Oreille river, crosses the International Boundary into the state of Washington about 10 miles below Trail, B. C. The river distance from Columbia lake to the International Boundary is 460 miles. Below the International Boundary the river flows in a general southerly direction entirely across the eastern end of Washington, and from a point about 15 miles below the mouth of Snake river, flows westerly to the Pacific ocean, forming the boundary between Washington and Oregon. The river distance from the International Boundary to the sea is 750 miles, and the fall in this distance is 1,288 feet, only about 10 feet of which is below the Bonneville dam. The Grand Coulee reservoir occupies the 151 miles of river immediately below the International Boundary.

15. The river drains an area of 259,000 square miles, of which 220,000 square miles is in the United States. Its principal tributaries in Canada are the Kootenay and Pend Oreille rivers; and in the United States, the Snake, Willamette, Cowlitz, Spokane, Deschutes, Lewis, Yakima, Okanogan, Wenatchee, Chelan, and John Day rivers.

### *Stream Flow at Bonneville*

16. During the 65-year period ended September 30, 1944, the flow of the Columbia river at Bonneville is estimated to have ranged from a minimum of 35,000 cubic feet per sec-

ond (abbreviated c. f. s.) on January 8, 1937, to a maximum of 1,170,000 c. f. s. on June 6, 1894, at the peak of the greatest flood of record. The average flow at Bonneville during this 65-year period was 205,500 c. f. s.

17. The record high and low flows are now only of historical interest, as existing storage in the basin, principally at Grand Coulee but also at Flathead, Kootenay, and Chelan lakes, will result in a more nearly uniform flow in the future. It may reasonably be expected, however, that hereafter the average flow at Bonneville will approximate the 205,500 c. f. s. heretofore experienced, or perhaps be slightly less on account of the increasing use of water for irrigation purposes.

### *The Project Works*

18. The Bonneville project works consist of the dam and reservoir, ship lock, power plant, fishways, and appurtenant works, including transformers and other electrical equipment necessary for delivery of the power output to the Bonneville Power Administration.

19. Exhibit 1 herewith shows the entire stretch of the Columbia river affected by the Bonneville project; also the project works on a site map; cross sections through the ship lock, spillway dam, and powerhouse; a sketch plan of the ship lock; and a small scale map indicating the extent of lands acquired by the United States for project purposes. Exhibit 2 is an aerial photograph of the project works, taken from the Oregon side of the river and from a point a short distance upstream from the project works. The spillway dam is near the

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right side of the photograph, and the power plant and ship lock are in the left foreground.

20. The dam is a gravity-type concrete spillway structure, with crest or gate sills at elevation 24. It extends across the main channel from the Washington shore to Bradford island, and is 1,090 feet long. It has a base width of about 200 feet and a maximum height of 170 feet. Piers 10 feet thick and spaced 60 feet center to center provide 18 gate openings, each 50 feet wide. The normal operating level of the reservoir is elevation 72; but the spillway gates supplemented by stop logs as a wartime expedient, permit of temporary operation at levels up to elevation 78.<sup>6</sup> The spillway has flood discharge capacity of 1,600,000 c. f. s., which is 37 per cent greater than the peak discharge of the record flood of 1894.

21. The ship lock, with chamber width of 76 feet and clear length of 500 feet, lies along the Oregon shore. The depth over the lower sill at extreme low water is 24 feet. Since completion of the lock late in 1937 it has been possible for ocean-going vessels to ascend the Columbia river to The Dalles (mile 189.4). Under normal operation, with pool elevation of 72, the maximum lift of the lock is about 62 feet. With the reservoir at elevation 78, as at present, the maximum lift is about 68 feet. No large lock in existence has a higher lift.

22. The powerhouse extends across Bradford slough<sup>7</sup> from the river wall of the lock to Bradford island. It is about 1,500 feet downstream from the spillway dam, and an earth dike on

the island connects it with the dam, thus completing the barrier. The powerhouse is equipped with ten main generating units, two of which have rated capacity of 43,200 kilowatts each and the remaining eight, 54,000 kilowatts each, at 0.9 power factor; but these are merely nominal capacities. Actually the two smaller main units are capable of generating 55,000 kilowatts each and the larger units, 59,000 kilowatts each. In addition there is a 4,000-kilowatt house unit which is not operated for commercial purposes. The ten main generating units, with combined maximum capability of 582,000 kilowatts, are available for commercial operation. It is expected that they will operate under a head of from 68 to 70 feet during periods of extreme low flow, with the reservoir at elevation 78 to 80.

23. Each main generating unit is driven by a 5-blade Kaplan propeller-type runner, the blades being automatically adjusted by governor control to the pitch or angle of best efficiency. There is nothing unusual about the generators except their large size.

24. Three-phase 60-cycle current is generated at 13,800 volts, nearly all of which is stepped up by transformers, located on the upper deck of the powerhouse, to 115,000 volts or 230,000 volts, as desired by the Bonneville Power Administration for transmission. The high-tension switching equipment is on the roof of the powerhouse.

25. Four fish ladders and three fish locks, referred to collectively as fishways, provide for the migrations of

<sup>6</sup> The present top-of-gates elevation is 79.

<sup>7</sup> Bradford slough is the name applied to

the chute of the river between Bradford island and the Oregon shore.

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fish back and forth past the dam. One of the fish ladders is at the Washington end of the spillway dam; another is on Bradford island at the other end of the dam; a third starts at the powerhouse, extends to Bradford island, and thence to the upper pool; and the fourth, which is detached from the other project structures, is on the Oregon side of the river. Fish locks are located at either end of the spillway dam, and adjacent to the river wall of the ship lock. These locks operate like navigation locks.

### *Pool Elevations*

26. The Bonneville project was designed for normal operation of the reservoir at elevation 72, but with provision for it to rise above elevation 80 for brief periods during great floods, when the tailwater would also be very high. At present the reservoir is being operated at elevation 78 as a war emergency measure, but the Office of the Chief of Engineers has ruled that after the emergency has passed, normal operation at elevation 72 shall be resumed.

27. It is assumed, after discussion with the Deputy Chief of Engineers, that in event of grave national emergencies in the future, the reservoir will be operated as at present if necessary; that is, at elevation 78, or possibly at elevation 80. It would appear that a recurrence of the record low-flow conditions of 1936-1937 would constitute an emergency justifying operation of the reservoir at the higher level, but necessity for doing this is not expected to arise more than twice during the next fifty years.

### *Bonneville Project Costs\**

28. Bonneville project costs incurred to June 30, 1944, including interest during construction at the rate of 2.5 per cent per annum, are as follows: For navigation facilities, \$5,784,055.16; for power facilities, \$37,681,648.33; and for facilities having joint value for navigation and power development, \$40,243,726.84. Additional costs estimated to be necessary after June 30, 1944, to complete the project, including interest during construction on the same basis, are as follows: Navigation facilities, \$750,459.94; power facilities, \$658,613.02; and joint facilities, \$492,368.62. Combining these figures, the anticipated final project costs may be stated as follows:

Navigation Facilities .....	\$6,534,515.10
Power Facilities .....	38,340,261.35
Joint Facilities .....	40,736,095.46
Grand Total .....	\$85,610,871.91

29. Included in the costs incurred through June 30, 1944, is interest during construction as follows: Navigation facilities, \$292,972.28; power facilities, \$1,258,782.59; and joint facilities, \$1,980,775.33.

30. Included in the anticipated final costs shown above is interest during construction as follows: Navigation facilities, \$302,237.22; power facilities, \$1,266,913.61; joint facilities, \$1,986,853.95; total, \$3,556,004.78. The project costs are shown in greater detail on Exhibit 3, to which attention is invited.

31. The base costs were taken from the records of the U. S. Engineer Department at the U. S. Engineer Office, Portland, Oregon, by the Commiss-

\* Gross capital expenditures, plus interest during construction.

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sion's supervising accountant of the San Francisco Regional Office, who was detailed to duty temporarily with the Chief Engineer on this investigation. He computed the interest during construction as shown in this report. The Bonneville project costs are kept accurately and capably by the U. S. Engineer Department, in accordance with this Commission's Uniform System of Accounts, as reported to the Chief Engineer by the supervising accountant.

### *Transmission*

32. Construction of transmission facilities for marketing electric energy generated at the Bonneville project in the manner contemplated by § 2(b) of the Bonneville Act was commenced by the Administrator during the fiscal year 1939, and the system necessary for this purpose was about 70 per cent completed by July 1, 1944.

33. By Executive Order 8526, dated August 26, 1940, the President designated the Bonneville Power Administrator as marketing agent responsible for the transmission and sale of power and energy generated at the Grand Coulee project in excess of power requirements for operation of that project, including its irrigation features. The Administrator has since been marketing power produced at both the Bonneville and Grand Coulee projects over transmission facilities constructed under his supervision, with funds appropriated for the Bonneville Power Administration. Combined BPA expenditures for transmission lines and substations, and facilities and struc-

tures appurtenant thereto, required by § 2(b) of the Act, and similar facilities constructed under Executive Order 8526, totaled \$76,106,309\* as of July 1, 1944, as reported by BPA, and that agency expects the ultimate capital cost thereof to exceed \$164,000,000.

### *Cost Already Incurred for, and Estimated Ultimate Cost of, Bonneville Transmission Facilities Required under § 2(b) of Act*

34. At the request of the Chief Engineer of this Commission, the Bonneville Power Administration made a study for the purpose of determining the probable ultimate capital cost of the transmission system required by the Act for marketing the total power output available for sale from the Bonneville plant. The results of this study were well presented by the Chief of the BPA System Development Section in a memorandum dated July 19, 1944.<sup>10</sup> Accompanying the memorandum are two exhibits entitled "Transmission System for Marketing Power from Bonneville Dam," showing the existing and proposed facilities, both geographically and diagrammatically. In making this study, the Bonneville-Grand Coulee transmission facilities referred to above were divided into two principal parts, one for marketing Grand Coulee power and the other for marketing Bonneville power. It was found that the division follows natural lines, and that the Bonneville portion "includes the area which under postwar conditions can easily absorb the total output from Bonneville."

\* Gross expenditures to July 1, 1944, \$76,106,309, comprised of: Net plant in service, \$69,978,467; retirements, \$1,147,481; and con-

struction work in progress, \$4,980,361.

<sup>10</sup> Exhibit 4 attached to this report. [Omitted.]

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35. The capital costs of the transmission facilities were taken from BPA Work Order records covering those facilities already constructed and under construction, and from engineering estimates with respect to facilities planned for construction to complete the Bonneville transmission system.

36. Due principally to wartime restrictions applying to materials and man-power, the transmission system required by the Act has not advanced to the stage that might reasonably have been expected under normal conditions. It has been found impossible during the past three years to build certain feeder lines or to complete substations and other facilities according to normal standards. Large expenditures for accomplishing these purposes, particularly for the installation of additional transformer capacity and synchronous condensers in existing substations, and related facilities required to complete the system, will be necessary, but it is probable that the greater part thereof will be deferred until after termination of the war.

37. A summary of the BPA estimate of the cost of the Bonneville transmission system is shown below:

### SUMMARY

#### *Total Investment in Transmission and General Facilities*

1. 230-kv lines and substations ..	\$12,851,960
2. 115-kv lines and substations ..	20,095,279
3. Subtransmission .....	2,891,658
4. Miscellaneous customers' connections .....	1,250,000
5. Subtotal .....	\$37,088,897
6. Substation, site, and building improvements .....	2,804,344
7. <sup>‡</sup> Estimated cost proposed Administration Bldg. .....	912,500
8. Other capital investments (5% of Item 5) .....	1,854,445
9. Total .....	\$42,660,186

38. Information regarding the facili-

ties listed above, and the estimated cost thereof, may be seen in greater detail by reference to Exhibit 4 herewith.

39. At the time the aforementioned study was made, it was expected by the BPA staff that the transmission facilities then constructed and under construction in the Bonneville market area (see drawing 24992 attached to said memorandum dated July 19, 1944—Exhibit 4 of this report), as covered by BPA Work Orders and engineering estimates, would cost \$30,794,561. Actual capital costs incurred therefor to and including June 30, 1944, totaled \$29,677,921. Between June 30, 1944, and March 4, 1945, BPA incurred additional costs in the amount of \$80,989, and on the latter date estimated that still further expenditures totaling only \$1,100 would be required to complete the facilities, making the total cost thereof of \$29,760,010, or 3.36 per cent less than the estimated cost of \$30,794,561.

40. Included in the BPA costs incurred to June 30, 1944, (\$29,677,921), is the entire cost of the two Bonneville-Vancouver 230-kilowatt transmission lines, \$1,971,277. These facilities are not used exclusively by the Bonneville project, although at times of monthly peak demand nearly three-fourths of the power carried thereby has on occasion come from Bonneville. Obviously it would not be equitable to charge the entire cost of these lines against the Bonneville transmission system, but in view of the fact that they are primarily Bonneville facilities, and after consideration of other relevant facts, it has been concluded that three-fourths of such

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costs might justifiably be borne by Bonneville. Hence, to give effect to this change, \$492,819 should be deducted from the costs incurred to June 30, 1944, as reported by BPA.

41. Included also is the entire cost of the Vancouver-Kelso 230-kilovolt line, \$1,720,360. This line, like the two Bonneville-Midway lines, half the cost of which is to be borne by the Bonneville transmission system, serves to connect the Bonneville power system with the Grand Coulee system. It is deemed consistent and reasonable, therefore, to give to the Vancouver-Kelso line the same treatment as that accorded the two Bonneville-Midway lines; that is, charge half of the cost thereof against the Bonneville transmission system. Hence, a deduction of \$860,180 from the BPA costs as of June 30, 1944 (\$29,677,921), appears reasonable.

42. The sum of the deductions from the costs incurred to June 30, 1944, for 230-kilovolt facilities, as treated separately in paragraphs 40 and 41 above, is \$1,352,999.

43. It will be observed that the Bonneville Power Administration has included an item of \$912,500 in the cost of facilities which that agency proposes be charged to the Bonneville transmission system, this amount representing one-fourth of the estimated cost of a new administration building which BPA desires to construct in Portland. BPA is now renting all or parts of seven different buildings in Portland, and it is believed that the rent paid therefor, together with the cost of maintaining taxicab service between buildings, the value of time lost in going from building to building, and other expense incidental to the

occupancy of so many buildings in different parts of the city, would abundantly justify the construction by the United States of a suitable administration building. However, the rents and all of the other costs referred to above are provided for in the BPA estimate of annual financial requirements (annual costs) for the Bonneville transmission system, and the estimated unit cost of Bonneville energy is based in part upon such annual costs. If the Administration building should be constructed, the annual costs thereon would be less than the corresponding expense now being borne by BPA due to the fact that no such building is available. Hence no part of the estimated cost of the building should now be charged to the Bonneville transmission system. When the building is constructed, an appropriate part of its cost may be charged thereto, but this will result in no increase in Bonneville's financial burden.

44. Item 8 of the BPA summary, \$1,854,445, is simply 5 per cent of the Item 5 subtotal of \$37,088,897. In view of the deduction of \$1,352,999 from the cost of 230-kilovolt facilities and hence from the \$37,088,897, a corresponding revision of Item 8 might appear to be in order. Upon the assumption, however, that the \$1,854,445 is a judgment figure, deemed by the BPA staff as desirable for inclusion to cover contingent costs not now predictable, this amount is left in the estimate.

45. Although no deductions from the costs incurred by BPA for 115-kilovolt facilities are being made, it seems well to point out that the Rainier-Longview lines Nos. 1 and 2

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are not used exclusively for marketing Bonneville power.

46. Other joint-use facilities, the entire cost of which is charged to the Bonneville transmission system, are the switching facilities at North Bonneville and at the J. D. Ross substation and the warehouse and shop at the latter substation.

47. Since the study referred to above was completed, the BPA staff has advised the Chief Engineer that \$757,000 should be added to the estimate to cover certain incremental capital costs necessary to provide tap lines and substation facilities for mak-

ing available a substantial part of the Bonneville secondary energy for servicing electric boilers expected to be used principally by the pulp and paper industry, this amount being in addition to allowances previously made in the estimate for the delivery of secondary energy to other classes of customers.

48. Giving effect to the changes dealt with in paragraphs 39 to 43, inclusive, and paragraph 47, the estimated cost of the Bonneville transmission system and related general facilities may be stated in revised form as follows:

### REVISED COST SUMMARY

#### *Bonneville Transmission System and Related Facilities*

A. Facilities constructed or under construction as of June 30, 1944:	
1. Actual costs to and including June 30, 1944, as reported by BPA	\$29,677,921
2. Deduction (see paragraph 42) .....	<u>1,352,999<sup>11</sup></u>
3. Costs incurred to and including June 30, 1944, chargeable to Bonneville transmission system .....	<u>\$28,324,922</u>
4. BPA estimate of costs necessary for completion of those facilities covered by Item 1 above which were incomplete as of June 30, 1944 .....	<u>82,089</u>
5. Indicated final cost of Bonneville transmission system facilities constructed or under construction as of June 30, 1944 .....	<u>\$28,407,011</u>
B. Facilities the construction of which had not been commenced as of June 30, 1944:	
1. BPA estimate of the cost of such facilities .....	\$12,622,625 <sup>12</sup>
2. Deduction (see paragraph 43) .....	<u>912,500</u>
3. Revised estimate .....	<u>11,710,125</u>
C. Revised estimate of cost of Bonneville transmission system and related facilities	\$40,117,136

49. It is probable that the total of \$40,117,136 shown above is more money than will be required to provide a transmission system, with the necessary appurtenant facilities, to meet the requirements of the Act in all respects. The reasons prompting this statement are as follows: (a)

the estimate includes a large arbitrary item of \$1,854,445 in the nature of a provision for contingencies; (b) with the Bonneville transmission system more than 70 per cent completed, experience has shown the actual costs to be 3.36 per cent less than the BPA estimate; and (c) it is expected that

<sup>11</sup> This \$1,352,999 was deducted from the costs of 230-kilovolt transmission lines the construction of which was completed prior to June 30, 1944.

<sup>12</sup> \$42,660,186 plus \$757,000, minus \$30,794,-

561. The cost of facilities constructed or under construction as of June 30, 1944, was estimated by BPA at \$30,794,561. Items B-1 and B-3 above include the \$757,000 referred to in paragraph 47.

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practically all of the remaining costs will be incurred after termination of the present war, when the construction cost level will probably be lower than at present. It is recommended, therefore, that the Commission proceed under the assumption that the aggregate cost of the transmission lines and substations, and facilities and structures appurtenant thereto required by § 2(b) of the Act, will be \$40,000,000.

50. Costs incurred to and including June 30, 1944, for Bonneville transmission facilities as reflected in the revised cost summary, paragraph 48 above, total \$28,325,000 in round figures. Deduction of this figure from the assumed ultimate cost of the Bonneville transmission system (\$40,000,000) leaves \$11,675,000 as the indicated amount necessary to be expended in the future to complete the system. It is assumed that this remaining investment will be made during the five fiscal years 1945 to 1949, as follows:

1945 .....	\$82,000
1946 .....	1,000,000
1947 .....	3,700,000
1948 .....	4,500,000
1949 .....	2,393,000
Total .....	\$11,675,000

### *Commission's Interim Allocation Order of February 8, 1938*

51. The rate schedules now in effect were fixed and established after announcement of the Commission's interim order of February 8, 1938, 1 Fed PC 706, which was adopted at a time when only two of the ten main generating units had been installed, and when it was "impossible to determine . . . the cost of the remaining eight generating units, represent-

ing about 80 per cent of the probable ultimate installation," or of the completed Bonneville project. The Commission made a conditional determination in said interim order to the effect that ultimately power development may fairly bear 32.5 per cent of the cost of facilities having joint value for the production of electric energy and other purposes, "*this percentage being subject to revision and readjustment by the Commission from time to time, on the basis of facts and circumstances obtaining at any time.*"

52. Inasmuch as the Bonneville project is substantially completed, with its "ultimate" power installation in operation, and the Bonneville transmission system is well advanced toward completion, it appears that the Commission's interim allocation of costs made early in 1938, before any costs had been incurred for transmission facilities, should now be superseded by a Commission determination and allocation of costs made on the basis of the facts and circumstances obtaining at this time, and taking into consideration estimates of capital costs yet to be incurred.

### *Controlling Provisions of the Act*

53. Under this heading reference will be made to those provisions of the Act which seem to require consideration by the Commission in the discharge of its principal responsibilities under the Act, particularly the making of an allocation of costs, as a basis for fixing and establishing schedules of rates and charges for the sale of Bonneville power, and the related matter of confirming and approving rate schedules prepared by the Administrator. Such comment and discuss-

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sion will be inserted as may seem to be appropriate.

54. In § 1 of the Act, the Congress authorized and directed the completion, operation, and maintenance of the dam, locks, power plant, and appurtenant works (which Congress called the *Bonneville project*), then under construction on the Columbia river at Bonneville, Oregon, and North Bonneville, Washington. It is stated therein that the Bonneville project as thus authorized is "for the purpose of improving navigation on the Columbia river, and for other purposes *incidental thereto*." Thus, with this legislative determination, the question as to the primary purpose of this project is a settled matter.

55. One of the "other purposes" for which the project was constructed is first revealed in § 1, where provision is made for a power plant, as an important feature of the project works — a facility "for the generation of electric energy."<sup>18</sup>

56. In § 1 reference is also made to the "Bonneville Power Administrator," and in § 2(a) appointment of the Administrator by the Secretary of the Interior is authorized and directed; and the Administrator's duties are specified. Among other things he is charged with responsibility for making arrangements for the transmission and sale of all electric energy generated at the Bonneville project, except the part thereof required for the operation of the project works.

57. In § 2(b) of the Act the Administrator is authorized and *directed* "to provide, construct, operate, maintain, and improve such electric trans-

mission lines and substations, and facilities and structures appurtenant thereto, as he finds necessary, desirable, or appropriate for the purpose of transmitting electric energy, available for sale, from the Bonneville project to existing and potential markets, and, for the purpose of interchange of electric energy, to interconnect the Bonneville project with other Federal projects and publicly owned power systems now or hereafter constructed." Here is found a specific requirement of the Congress that the Administrator provide a transmission system. For what purpose? For the transmission and sale or interchange of electric energy *generated at the Bonneville project*; to encourage the widest possible use of all electric energy that can be generated at Bonneville; to provide reasonable outlets for such energy; and to prevent the monopolization thereof by limited groups.

58. In § 3 of the Act, the Congress defines the terms "public body" and "coöperative," and in § 4 provides that at all times in disposing of electric energy generated at the Bonneville project, the Administrator shall give preference and priority to public bodies and coöperatives. Such public bodies and coöperatives supply electric service to their members as nearly as possible at cost. Clearly, it was the intent of the Congress that the electric energy generated at the Bonneville project be disposed of to these public bodies and coöperatives, and to other purchasers, as nearly as possible at cost. In providing for the production of electric power at the Bonneville project, it was not the intent of the Congress that the Federal government should profit thereby at the ex-

<sup>18</sup> No other incidental purpose is mentioned in that Act.

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pense of the people within economic transmission distance of the power plant; and it is equally clear, as will appear hereinafter, that it was the intent of the Congress that the power output of the Bonneville project should not be sold below cost.

59. The Congress, as appears from § 4(d) of the Act, contemplated supplying electric service, particularly through public bodies and coöperatives, to the people of the states "within economic transmission distance of the Bonneville project."

60. In § 5(a), the Act refers to such rate schedules as the Federal Power Commission may approve, and subject thereto clothes the Administrator with power to negotiate and enter into contracts for the sale at wholesale of electric energy generated at the Bonneville project.

61. Sections 6 and 7, particularly the latter, are of paramount importance in connection with the matter of cost allocation, and for that reason these two sections have been quoted in full in paragraph 3 of this report. In § 6, after making the Federal Power Commission responsible for the confirmation and approval of rate schedules prepared by the Administrator, the Congress added the following requirement: ". . . rate schedules . . . shall be fixed and established with a view to encouraging the widest possible diversified use of electric energy"—apparently the only limitation on the Bonneville service area being that the energy must be marketed "within economic transmission distance of the Bonneville project"

(§ 4-d). The rates, based upon the allocation of costs which the Commission is to make, should be as low as practicable in order most fully to achieve this important objective.

62. Section 7 of the Act expresses the intent of the Congress that rate schedules shall be determined with due regard to and predicated upon the fact that the electric energy is generated as an incident to the construction of the Bonneville dam for the purposes set forth in § 1 of the Act (see paragraph 54 above).

63. Section 11 of the Act authorizes the appropriation, out of moneys in the Treasury, of such sums as may be necessary for the "installation of equipment and machinery for the generation of electric energy and facilities for its transmission and sale."

64. It has been observed that it was the intent of the Congress that the rates charged for electric energy generated at the Bonneville project should be as low as practicable. It is clear, however, that it was also the intent of the Congress that the rates be so fixed and established as to produce sufficient revenue to cover the cost of the energy delivered to markets within economic transmission distance; that is, the combined cost of production and transmission. The Act provides for the accomplishment of this purpose by requiring that "Rate schedules shall be drawn having regard to the recovery . . . of the cost of producing and transmitting such electric energy, including the amortization of the capital investment<sup>14</sup> over a reasonable period of

<sup>14</sup> The combined capital investment in electric facilities for the generation and transmission of Bonneville energy, including such a

share of the cost of joint-use facilities at the Bonneville project as the Commission may allocate to "electric facilities."

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years"; and provides further that "Rate schedules shall be based upon an allocation of costs made by the Federal Power Commission"—another mandatory provision. Then follows in the last sentence of § 7 a permissive provision, which says that in computing the cost of the *incidental by-product* electric energy, the Federal Power Commission *may* allocate to the cost of electric facilities such a share of the cost of facilities having joint value for the production of electric energy and other purposes as the power development may fairly bear as compared with such other purposes.

65. The schedules of rates and charges must of necessity be based upon the sum of the costs of the generating facilities and the transmission facilities, inasmuch as the rates must be designed to provide sufficient revenue to insure recovery of all costs in both of these categories. The generation component of such aggregate costs will include such part of the cost of joint facilities at the Bonneville project as the Commission may allocate to "electric facilities."

66. Thus it is seen that the "allocation of costs" to power referred to in § 7 of the Act will be comprised of three parts: (a) the entire cost of the power plant and such other costs at the Bonneville project as are chargeable directly and wholly to power development, including the cost of step-up transformers and other electrical equipment necessary for delivery of

the power output to the Administrator; (b) such part of the cost of facilities at the Bonneville project having joint value for the production of electric energy and other purposes as the Commission may allocate to the costs of electric facilities; and (c) the entire cost of the Bonneville transmission system, thus far partially constructed by the Administrator and to be completed by him in accordance with the requirements of § 2(b) of the Act.

### Rate Schedules Now in Effect

67. Five schedules of rates and charges for the sale of power and energy produced at the Bonneville project, prepared by the Administrator and confirmed and approved by the Commission in accordance with the Act, are now in effect. They are designated as Schedules A-3, C-3, E-2, F-2, and H-2. An analysis of the BPA publication, "Sales of Electric Energy," showing data for the month of June, 1944, and for the fiscal year 1944, indicates that if each customer had taken service during the entire fiscal year under the schedule applying to the customer in June, 1944,<sup>15</sup> the sales for that fiscal year, by rate schedules, and the approximate average revenue per kilowatt hour for energy sold under each schedule, would have been as shown in the following tabulation:

<sup>15</sup> Data for month of May instead of June were used in a few cases.

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Bonneville Rate Schedule	Bonneville-Grand Coulee			Approximate Average Revenue (Mills per Kw. Hr.)
	Energy Sales (1,000 Kw. Hr.)	% of Total	Revenue (Dollars)	
(1)	(2)	(3)	(4)	(6)
A-3	5,294.8	0.06	14,296	0.07
C-3	6,950,962.3	80.82	15,848,194	77.65
E-2	107,388.5	1.25	374,786	1.84
F-2	216,476.9	2.52	870,237	4.26
H-2	799,722.2	9.30	1,999,306	9.80
<b>Subtotal</b>	<b>8,079,844.7</b>	<b>93.95</b>	<b>19,106,819</b>	<b>93.62</b>
<b>Exchange</b>	<b>520,609.7</b>	<b>6.05</b>	<b>1,301,524</b>	<b>6.38</b>
<b>Total<sup>18</sup></b>	<b>8,600,454.4</b>	<b>100.00</b>	<b>20,408,343</b>	<b>2.37</b>

68. It will be observed from the above tabulation that about 81 per cent of the Bonneville-Grand Coulee energy sales during the fiscal year 1944 were under rate schedule C-3, the kilowatt-year firm power schedule; and that 9.3 per cent were under Schedule H-2, the so-called "dump power" schedule. The average of 2.37 mills shown at the bottom of column (6) is about the same as the average revenue received per kilowatt hour for all Bonneville-Grand Coulee energy sold during the fiscal year 1944, as reported by the Bonneville Power Administration.

69. The salient facts relating to each of the schedules of rates and charges now in effect are summarized below:

(a) *Schedule A-3* applies to "at-site prime power," available to customers within 15 miles of the Bonneville power plant. The rate is \$14.50 per year per kilowatt of billing demand, which, for high load factor power, is the lowest of the several rates. Customers taking service under this schedule must either consume it within 15 miles of the power plant, or if the energy is purchased for resale the principal part of it must be utilized

within the area so defined. Thus far only two customers, both public agencies, have taken service under this schedule. Their power requirements are small.

(b) *Schedule C-3* applies to prime power delivered from the Bonneville transmission system. The rate is \$17.50 per year per kilowatt of billing demand. It is especially adapted to the requirements of customers who utilize power at high load factor, and for this reason the metallurgical and chemical industries and the large electric utilities take service under it. The average revenue per kilowatt hour received for energy sold under this schedule during the fiscal year 1944 was less than that under any other schedule. Much the greater part of the power produced at the Bonneville project is now sold under Schedule C-3.

(c) *Schedule E-2* is available only to customers who purchase power for resale to ultimate consumers, or to customers using power for irrigation pumping or drainage pumping. It applies to the sale of firm power either at site or from the transmission system. The schedule contains a 2-part rate, the demand charge being 75 cents

<sup>18</sup> Data in this tabulation differ slightly from those reported by BPA on FPC Form

No. 1, which shows energy sales of 8,671,091,375 kilowatt hours in the fiscal year 1944.

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per month per kilowatt of billing demand, and the energy charge 2 mills per kilowatt hour for the first 200 kilowatt hours per kilowatt of billing demand, and 1 mill per kilowatt hour for additional energy taken. This schedule is adapted to low load factor use. It contains a provision which limits the charge in any month, to public bodies and co-operatives, to not more than 3.5 mills per kilowatt hour during a load development period. A purchaser must take at least 90 per cent of his monthly energy requirements from the Bonneville Power Administration, or be billed on that basis, to qualify for this rate. This schedule also contains a special rate, demand charge of \$4.50 per year per kilowatt of annual maximum demand, energy charge same as above, applicable to power sold for irrigation pumping or drainage pumping. At present most of the BPA sales to publicly owned distributors are under this rate.

(d) *Schedule F-2* applies to the sale of prime power at site or at any point on the transmission system designated by the Administrator. This rate is adapted principally to the sale of power for standby purposes, and to the requirements of low load factor and medium load factor industrial and commercial customers. The demand charge is 75 cents per month per kilowatt of billing demand, and the energy charge is 2.5 mills per kilowatt hour for the first 360 kilowatt hours per kilowatt of monthly billing demand, and 1 mill per kilowatt hour for additional energy. The features of this

schedule relating to irrigation and drainage pumping are similar to those contained in Schedule E-2. Also there is a special rate of 5 mills per kilowatt hour during a development period, applicable to sales to public bodies and co-operatives purchasing their entire power requirements from BPA. The provisions of Schedule E-2 are more liberal in this respect, however, and for this reason nearly all of the public agencies have shifted from Schedule F-2 to Schedule E-2.

(e) *Schedule H-2* applies to the sale of "dump energy" to customers maintaining generating facilities adequate to their own needs or having firm contracts for standby power from other sources. "Dump energy" is defined as energy that may be generated from water that would otherwise be wasted. The points of delivery and the voltage at which the power is to be delivered are designated by the Administrator. The rate for "dump energy" is 2.5 mills per kilowatt hour. This schedule also applies to emergency service, and is available to customers having their own generating facilities and rendering emergency service to BPA on a reciprocal basis.

### *Power Available at Bonneville Plant Bus and Estimated Average An- nual Deliveries to Customers*

70. The operative date, name-plate rating, and maximum capability of each of the main generating units, together with the rated plant capacity and maximum plant capability, are shown in the following tabulation:

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## BONNEVILLE POWER INSTALLATION

Unit No.	Operative Date	Name Plate Rating (kw)	Maximum Capability (kw)	Cumulative Maximum Capability (kw)
(1)	(2)	(3)	(4)	(5)
0	9-28-37	4,000 <sup>1</sup>	.....	.....
2	6-6-38	43,200	55,000	55,000
1	7-18-38	43,200	55,000	110,000
4	12-23-40	54,000	59,000	169,000
3	1-9-41	54,000	59,000	228,000
5	9-5-41	54,000	59,000	287,000
6	5-18-42	54,000	59,000	346,000
7	3-31-43	54,000	59,000	405,000
8	6-15-43	54,000	59,000	464,000
9	9-15-43	54,000	59,000	523,000
10	12-14-43	54,000	59,000	582,000
Total—Units 1 to 10		518,400	582,000	582,000

<sup>1</sup> House unit.

71. The ten water wheels are alike in all respects but the generators of Units 3 to 10 have slightly greater over-all vertical dimensions than those of Units 1 and 2, and have greater capability, as shown by the above table. The tops of all of the generators were set at the same elevation, so that the difference in vertical dimensions would not mar the symmetry of the powerhouse interior. It will be observed that as indicated by the name plates, all of the units are underrated, Units 1 and 2 much more so than the others.

72. Assuming that the Bonneville and Grand Coulee projects will be operated in coördination both hydraulically and electrically in such manner as to obtain the maximum amount of prime power from the two plants, and taking account of the effects of existing storage in the basin, the Bonneville

Power Administration has estimated the Bonneville prime power at 403,000 kilowatts at the plant bus.<sup>17</sup> This figure is based upon a regulated flow of 80,220 c. f. s.,<sup>18</sup> which could be maintained as an average at Bonneville over the 5-month period, November to March, during a water year like the record low-flow year of 1936-37, and upon the assumptions that under such conditions the reservoir would be operated at elevation 80, and that 2,500 c. f. s. of the flow would not be used for power purposes.<sup>19</sup>

73. The BPA estimate of 403,000 kilowatts for the strictly continuous power, termed prime power, is regarded as somewhat too high under existing headwater storage conditions, but too low as an average over the 50-year amortization period. It is probable that during the first ten years of the amortization period, suf-

<sup>17</sup> The comparable BPA estimate of Grand Coulee prime power, after 15 main units shall have been installed in that plant, is 1,009,000 kilowatts.

<sup>18</sup> At times during the 5-month low-flow period the power available at Bonneville might be less than 403,000 kilowatts, or that at Grand Coulee less than 1,009,000 kilowatts; also during rare periods of extreme high

flow, that at Bonneville would be less than 403,000 kilowatts; but the BPA studies indicate that the two plants together would never have less than 1,412,000 kilowatts.

<sup>19</sup> The U. S. Engineer Department estimates water requirements for operation of the fishways and navigation lock, together with leakage and seepage losses, at 2,500 c.f.s.

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ficient additional headwater storage will be developed to raise the prime power above 403,000 kilowatts on a conservative basis of calculation, even assuming that the War Department will not approve of a maximum reservoir height in excess of elevation 78 during periods of extreme low flow approximating the 1936-37 conditions.<sup>20</sup> It is concluded, therefore, that 403,000 kilowatts is a satisfactory figure for the prime power. Perhaps no better determination could be made at this time.

74. At present the power required for operating the navigation facilities and other project works, including electric service to shops and permanent buildings, and for lighting the premises amounts to about 1,700 kilowatts. This so-called "house load" may increase in the future, and with that contingency in view an allowance of 3,000 kilowatts is made for it. This leaves 400,000 kilowatts of prime power at the plant bus, for transmission to market.

75. The noncontinuous or secondary energy available at Bonneville before transmission, with normal operation of the reservoir at elevation 72, is estimated as follows: Secondary energy available 80 per cent of the time, 600,000,000 kilowatt hours per year;<sup>21</sup> remaining secondary energy, 353,000,000 kilowatt hours per year; total, 953,000,000 kilowatt hours per year.

76. A liberal allowance of 7 per

<sup>20</sup> During the present war emergency the reservoir is being operated at elevation 78.

<sup>21</sup> It is expected that this better class of secondary energy will be utilized at a load factor of about 80 per cent.

<sup>22</sup> The combined Bonneville-Grand Coulee system losses during the year ended September 30, 1944, were 6.6 per cent. Bonneville

cent is made for power and energy losses between the plant bus and customers' meters,<sup>23</sup> and it is estimated that as an average during the amortization period 90 per cent of the prime power will be sold, at a load factor of 90 per cent. Thus, the number of revenue-producing kilowatts of prime power is reckoned as 372,000.<sup>24</sup> After study of the power situation in the Bonneville service area, present and prospective, both the Bonneville Power Administration and the staff of this Commission reached the conclusion that neither the sales factor nor the load factor would be less than 90 per cent; and the Commission's staff believes that the two factors will be about the same, whether they approximate 90 per cent or a higher figure. The load factor is more likely to decline than the sales factor, and if the former should be the lower of the two, the number of revenue-producing kilowatts would be increased.

77. With respect to the secondary energy, it is not possible to determine satisfactorily in advance either the marketable portion thereof or the amount of revenue to be derived therefrom. After giving full consideration to this matter, however, and obtaining the views of BPA, the Commission's staff is of the opinion that about five-eighths of the secondary energy, or say an average of 600,000,000 kilowatt hours per year, will be delivered to and paid for by customers.

78. The commercial power and en-

losses should be somewhat less, as the generating plant is near the market.

<sup>23</sup> In case of a recurrence of the 1936-37 record low-flow conditions, both the sales factor and the load factor would probably be about 94 per cent, with no appreciable change in the number of revenue-producing kilowatts.

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ergy available at the generating plant for transmission to market, and the

Character of Power
(a) Prime Power .....
(b) Prime Energy Equivalent .....
(c) Secondary Energy Available 80% of the Time .....
(d) Remaining Secondary Energy .....

<sup>1</sup> Firm power at 90 per cent load factor (transmission losses, 7 per cent; sales factor, 90 per cent).

### *Theories of Joint Cost Allocations*

79. Several methods or theories have been proposed by engineers and economists for allocating among purposes benefited, that part of the total cost of multiple-purpose water-control projects which has joint value for two or more purposes. In the final analysis, all of these theories stem from a concept of the sharing of benefits derived from joint endeavor or joint accomplishment.

80. Among the methods most discussed are the benefits theory, under which the joint costs are divided among the purposes on the basis of the estimated benefits derived from the joint venture; a variant of the benefits theory, known as the alternative-justifiable-expenditure theory, under which the joint costs are shared in proportion to the differences between the estimated alternative *justifiable* costs and the actual costs incurred specifically for each of the purposes; the use-of-facilities theory, in accordance with which the joint costs are divided on the basis of comparative use of the joint facilities; the vendibility theory, which requires no explanation here; the specific-costs theory, by which the joint costs are simply divided in proportion to the specific costs incurred for each of the

estimated revenue-producing units are summarized below:

Units Available at Plant Bus	Revenue-producing Units
400,000 Kw.	372,000 Kw. <sup>1</sup>
3,504,000,000 Kw. Hr.	
600,000,000 Kw. Hr.	600,000,000 Kw. Hr.
353,000,000 Kw. Hr.	

purposes; and the equal-apportionment theory, under which the joint costs are divided equally among the principal purposes served.

81. In an abstract sense, there is merit to some of these theories, but generally they are not of considerable value in relation to water-control projects due to the infrequency of their applicability to practical situations. For instance, it is not difficult to appreciate the obstacles met in any effort to apply the use-of-facilities theory, the benefits theory, or the alternative-justifiable-expenditure theory to the Bonneville allocation problem, nor can any of the other theories be used advantageously.

82. At the request of the Commission, the U. S. Engineer Department prepared estimates of costs, including interest during construction at the rate of 2.5 per cent per annum, of hypothetical single-purpose projects solely for power development and solely for navigation at the Bonneville site, with normal pool level at elevation 72.<sup>24</sup> The alternative single-purpose power cost was estimated at \$69,383,000, and that for navigation at \$37,444,000, but the U. S. Engineer Department did not say these costs

<sup>24</sup> See Exhibit 5 for these and other alternative project estimates.

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could be justified. That Department merely prepared the estimates as requested. However, this power-development estimate supplies an acceptable figure for use in the alternative-justifiable-expenditure theory, but the navigation-improvement estimate is regarded as too high to be of any value for that purpose; that is, the \$37,444,000 would not be a justifiable expenditure.

83. A judgment figure could be adopted, of course, as representing the alternative justifiable expenditure for navigation, and used along with the \$69,383,000 figure for power development in the application of the alternative-justifiable-expenditure theory. But it could hardly be said that the result would be superior to that obtainable by the application of informed judgment in the first instance.

84. It appears, however, that, ignoring the implications of §§ 1 and 7 of the Act, the application of any of these theories, except the equal-apportionment theory, would result in charging a preponderant share of the joint costs to power development; more, apparently, than was intended by the Congress.

### *Permissible Limits of Bonneville Joint Cost Allocation to Electric Facilities*

85. In order to arrive at the aggregate capital cost, upon the basis of which schedules of rates and charges shall be established, it is necessary to determine the share of the cost of joint facilities at the Bonneville project that may fairly be borne by power, and add this amount to

the sum of the specific power costs at the Bonneville project and the transmission costs. It is desirable first, however, as a preliminary to this determination, to consider the permissible limits of the share of such joint costs that power might fairly bear under any circumstances—the ceiling and the floor, so to speak—in the light of the limitations which seem to be imposed by the Act. The congressional intent, as clearly expressed in the Act or as reflected by reasonable interpretations of its pertinent provisions, should be observed.

86. Power development at the Bonneville project is incidental to the primary purpose—navigation (§ 1 of the Act).

87. An important objective of the Act was and is “to encourage the widest possible use of all electric energy that can be generated” at the Bonneville project (§ 2-b)—“rate schedules . . . shall be fixed and established with a view to encouraging the widest possible diversified use of electric energy” (§ 6). The Commission is jointly responsible for effecting compliance with the requirements of the latter directive.

88. “*It is the intent of Congress that rate schedules for the sale of electric energy . . . generated at the Bonneville project . . . shall be determined with due regard to and predicated upon the fact that such electric energy is developed from water power created as an incident to the construction of the dam*” as a navigation improvement (§ 7). Neither is this mandate directed to the Administrator alone. It is to be observed by any governmental agency having

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any degree of control over the rates at which Bonneville power shall be sold, including, of course, the Federal Power Commission. The quoted language can hardly be construed as reflecting an intent that a major share of the joint costs should be allocated to electric facilities.

89. Attention is invited to the fact that the provision "Rate schedules shall be based upon an allocation of costs made by the Federal Power Commission" appears in § 7 after the directive just referred to, and very significantly just before the following language: "In computing the cost of electric energy developed from water power *created as an incident to and a by-product of the construction of the Bonneville project*, the Federal Power Commission *may* allocate to the costs of electric facilities such a share of the cost of facilities having joint value for the production of electric energy and other purposes as the power development may fairly bear as compared with such other purposes."

90. In the light of a careful study of the language of §§ 1, 2(b), 6, and particularly 7, it is concluded that Congress did not intend that a major share of the joint costs should be allocated to electric facilities.

91. It is necessary then that the Commission allocate to an incidental purpose—a subordinate purpose by the terms of the Act—some appropriate share of the joint costs. It appears that with only two important purposes served<sup>25</sup>—one primary, the other subordinate—the share of the joint costs assignable to the *primary*

purpose might approach 50 per cent as a *minimum* limit; and the share allocable to the incidental or subordinate purpose might approach 50 per cent as a *maximum* limit. Thus, in this case, 50 per cent would be the practical maximum limit of the allocation to electric facilities.

92. The language of the Act authorizing such an allocation is not mandatory, but permissive. If the Commission were convinced that power could not fairly bear any part of the joint costs, as the Commission found in the case of the Fort Peck project, presumably it would make no allocation at all. Hence, zero is the minimum limit.

93. It is concluded, therefore, that allocation to electric facilities of any share of the joint costs, between zero and 50 per cent, is a matter within the discretion of the Commission. Within these limits the share so allocated will, of course, be that which, in the judgment of the Commission, power may fairly bear as compared with other purposes.

### *The Bonneville Rate Level*

94. The Bonneville rate schedules now in effect have been made applicable also to the sale of power produced at the Grand Coulee project. More than half of the electric energy now being consumed in the five states of the Northwest—Washington, Oregon, Idaho, Montana, and Utah—is generated at the Bonneville and Grand Coulee projects.<sup>26</sup> It may be said with substantial correctness, therefore, that the economy of that entire

<sup>25</sup> Unemployment relief is important, but as that "purpose" was served only temporarily, it is of a different category from navigation

and power.

<sup>26</sup> Bonneville Power Administration press release No. N-815, of January 3, 1945.

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region is geared to the existing Bonneville rate structure; and for that reason it is assumed that so long as the Bonneville power output is not being sold below cost, no consideration whatsoever will be given to raising the rate level. For the information of the Commission, Bonneville power is not being sold below cost. Even if the Bonneville power system (meaning all facilities utilized for the generation and marketing of Bonneville energy) had been carrying 100 per cent of the cost of joint facilities at the Bonneville project throughout the preamortization period ended June 30, 1944, the aggregate revenues properly assignable to Bonneville would have exceeded the corresponding aggregate expenses for said period by a margin of \$913,000. Moreover, it appears from an inspection of revenue data and financial-requirements data for the nine months ended March 31, 1945, that the revenue for the current fiscal year will exceed the annual costs by a very substantial margin. Hence, it may be assumed that the established Bonneville rates will either remain unchanged or be lowered.

95. If the rates which shall be established on the basis of the allocation of costs to be made by the Commission should produce more revenue than is necessary to cover all annual costs by a reasonable margin, and if such rates should not be reduced, the capital investment in electric facilities would be recovered by the United States in a shorter period of time than fifty years.

### *Bonneville's Obligations with Respect to Justification of Economic Feasibility of Upstream Storage Projects*

96. In considering the matter of an allocation of costs as a basis for establishing schedules of rates and charges, it appears that the Commission may properly take cognizance of Bonneville's obligations, present and future, in respect of justification of the economic feasibility of government water-control projects embodying headwater improvements, particularly storage reservoirs, beneficial to the Bonneville project. For instance, a very substantial part of the prime power now available at Bonneville is attributable to the better regulated flow of the Columbia river resulting from operation of the Grand Coulee reservoir, with its usable storage of 5,200,000 acre-feet.

97. It is expected that much additional storage will be provided in the Columbia river basin above Bonneville at public expense, but considering the Bonneville plant as constructed, with its completed installation of ten main generating units (rated capacity 518,400 kilowatts; maximum capability 582,000 kilowatts), there is a definite limit to the volume of headwater storage that would be beneficial to it. There is a possibility that if some 15,000,000 acre-feet or more of additional headwater storage should be developed, radical changes in the Bonneville project, to increase the installation, would be warranted. The Commission would not be justified, however, in giving consideration at this time to the possibility of such

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a change being made in the distant future.

98. Nothing is said in the preceding paragraphs in contemplation of actual payments being made on behalf of the Bonneville project for benefits derived from headwater improvements at other government projects. Obviously it would be a mistake, however, in considering the economic feasibility of a proposed government reservoir on a headwater stream not to evaluate the benefits that would inure to downstream power developments as a result of the operation of the headwater storage.

*Recent Report by Commissioner of Reclamation and Bonneville Power Administrator on Allocation and Repayment of Costs, Columbia Basin Project*

99. One of the purposes of the Reclamation Project Act of August 4, 1939, 53 Stat 1187, 43 USCA §§ 485-485k, was "to protect the investment of the United States" in reclamation projects. Section 7(b) of that Act provides that "For any project . . . now under construction or for which appropriations have been made, and in connection with which a repayment contract has not been executed, allocations of costs may be made in accordance with the provisions of § 9 of this Act. . . ." Section 9(a) of that Act provides that "No expenditures for the construction of any new project, new division of a project, or new supplemental works on a project shall be made, nor shall estimates be submitted therefor, by the Secretary until after he has made an investigation thereof and has submitted to the

President and to the Congress his report and findings on . . . the part of the estimated cost which can properly be allocated to power and probably be returned to the United States in net power revenues."

100. During the past year the Commissioner of Reclamation and the Bonneville Power Administrator prepared a "Joint Report on Allocation and Repayment of the Costs of the Columbia Basin Project," that project having been adjudged by them (after considering the Columbia Basin Project Act of 1943—57 Stat 14, 16 USCA §§ 835-835c-5) to be within the scope of § 7(b) of the Reclamation Project Act of 1939, permitting the making of allocations of cost under § 9 of that Act. Their report and all the allocations, determinations, and findings set forth therein were approved and adopted by the Secretary of the Interior on January 31, 1945. The following language, involving the Bonneville project, is quoted from page 47 of the report:

"The Bonneville Power Administration will pay to Grand Coulee out of revenues derived from the sale of power produced at Bonneville only for the benefits received from Grand Coulee storage. This payment is \$187,570 per year for fifty years and represents 3 per cent interest and amortization on \$4,826,129, which is the portion of the commercial power allocation applicable to the Bonneville Dam Project."

101. Upon reading the Columbia Basin Project report referred to above, and having in mind the requirements of the Bonneville Act with respect to disposition of receipts, it was first understood that the Admini-

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istrator did not in reality propose to make any actual payments to Grand Coulee, or rather to the Reclamation Fund, out of Bonneville revenues on account of headwater benefits, but that he merely intended to take account of such amounts in the BPA book-keeping, as an indication of Bonneville's contribution toward the economic justification of the Grand Coulee project. But in a letter dated May 5, 1945, to the Commission, commenting upon a draft of this report, the Administrator, upon the advice of counsel, says:

"It is not the intention of the Columbia Basin Project report that such payments be entered only on the books of the Bonneville Power Administration. It is our understanding that revenues will be credited on the books of the Treasury to the Reclamation Fund instead of to Miscellaneous Receipts to the extent of the obligation for upstream river regulation."

102. In this connection attention is invited to the first sentence of § 11 of the Bonneville Act (50 Stat 731), which reads:

"Section 11. All receipts from transmission and sale of electric energy generated at the Bonneville project shall be covered into the Treasury of the United States to the credit of miscellaneous receipts, save and except that the Treasury shall set up and maintain from such receipts a continuing fund of \$500,000, to the credit of the Administrator and subject to check by him, to defray emergency expenses and to insure continuous operation."

103. There has been no occasion for this Commission to determine the headwater benefits to the Bonneville

project attributable to the operation of the Grand Coulee reservoir. Section 10(f) of the Federal Power Act, 16 USCA § 803(f), does not authorize such determinations by the Federal Power Commission where both the benefited project and the project having the headwater improvements are owned by the United States. Neither does the Federal Power Act nor any other statute, so far as is known to this office, authorize any other agency or department of the United States to make such determinations in contemplation of annual payments actually being made by or on behalf of the benefited project.

104. Bonneville benefits from Grand Coulee storage to a greater degree than would be the case if both Bonneville and Grand Coulee were privately owned and under Federal license, because according to the BPA commitment the two projects are and will continue to be operated in coördination in such manner that the prime power output from the two plants will be a maximum. In other words, the storage is operated for the mutual benefit of the two projects, which is obviously in the public interest. It is hardly probable that the operation of two privately owned waterpower projects would be so well coördinated, particularly if the projects were owned by diverse interests, even though both were under Federal license.

105. Irrespective of what consideration, if any, the Commission may feel justified in giving to the proposed annual payment of \$187,570<sup>27</sup> per year during the 50-year amortization peri-

<sup>27</sup> See somewhat larger figure at bottom of page 33 of the Columbia Basin Project report.

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od as Bonneville's contribution to the economic justification of the Grand Coulee project, the Commission may assume with confidence that an actual payment in that amount, if such were permissible, would not be excessive.

106. It may be observed that while the Bonneville Act contains no language relating to headwater benefits, the Congress has, in the Federal Power Act, recognized the equity of payments for such benefits. In the instant case, the only question for consideration is whether the cost allocations and rates shall be determined and established with a view to having gross revenues sufficient in amount to cover all annual costs, and in addition provide a margin, of say about \$400,000 per year, which when deposited in the Treasury to the credit of miscellaneous receipts as required by the Act, will in effect constitute a payment to the United States for benefits from headwater improvements, present and future.

### *What Share of the Joint Costs at the Bonneville Project May Navigation Fairly Bear?*

107. Pursuant to a request of this Commission, the Chief of Engineers, War Department, caused a study to be made by the U. S. Engineer Department with a view to reaching a conclusion regarding the part of the Bonneville project cost which, in view of the superb improvement of the Bonneville-The Dalles stretch of river, could reasonably be charged to navigation. The views of the Chief of Engineers were desired for the information of the Commission in connection with its determination of the share of joint costs at the Bonneville

project which may fairly be borne by power, in comparison with the share that may fairly be borne by other purposes. Attention is invited to the Deputy Chief of Engineers' letter of September 29, 1944,<sup>28</sup> in which he reports the results of that Department's studies, indicating that the present value of the direct benefits to navigation made possible by the Bonneville project is \$13,170,000.

108. The Deputy Chief of Engineers calls attention, however, to indirect, intangible, and contingent benefits expected to result from this high-class navigation improvement, such benefits not being subject to appraisal on a firm statistical basis. He states that the estimate of \$13,170,000 makes no allowance for the possibility that ocean-going vessels may use the deep-water channel above the Bonneville dam in the future, and refers to the national defense value of this navigation facility.

109. Taking into consideration benefits of the character referred to in paragraph 108 above, the Deputy Chief of Engineers informed the Commission of the view of the Office of the Chief of Engineers that an appropriate total allocation to navigation of Bonneville project costs would be the sum of the cost of the navigation facilities and one-half of the cost of the joint facilities.

110. The Corps of Engineers, U. S. Army, has been responsible for the planning, construction, operation, and maintenance of navigation facilities, and in general for improvement of the rivers of the United States for navigation, for more than a century. It is suggested that the views of that

<sup>28</sup> Exhibit 6 herewith. [Omitted.]

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agency regarding justifiable expenditures for navigation improvements should enlist the attention of any tribunal dealing with a problem of that character. Its views, as set forth in the Deputy Chief of Engineers' letter, concerning the part of the Bonneville project costs that might reasonably be borne by navigation, are commended to the Commission for careful consideration in connection with its allocation of a fair share of the joint costs to electric facilities.

*Potential Market for Secondary Energy Represented by a Class of Customers Who Cannot Afford to Take Service under Any Rate Schedule Now in Effect*

111. In the Bonneville service area there is a large potential market for secondary energy for the operation of electric boilers which might be installed by the pulp and paper industry if the rates charged for such energy were sufficiently low to meet the competition of "hogged fuel" or wood wastes, now used in such plants as fuel for producing steam. This situation has been investigated by the Bonneville Power Administration, and some study has been given to it by the Commission's staff. As yet the Administrator has submitted no new rate schedule for consideration by the Commission, and it is not known what he will propose. It appears, however, that the kilowatt-hour rate will necessarily be low in comparison with the 2.5-mill "H-rate" charge (see paragraph 69), since otherwise the installation of electric boilers and the

operation and maintenance of two complete sets of boilers would not be justified.

112. Several pulp and paper plants are located along or reasonably near the high-tension lines of the Bonneville transmission system, and their potential energy requirements are large enough to absorb all of the secondary energy available from the Bonneville project; however, only such part of the nonfirm energy as would not be required by customers taking service under the existing H-rate would be available to this new class of customers.

113. In evaluating the Bonneville power output, all available secondary energy classified as marketable, except 80,000,000 kilowatt hours per year assumed to be taken by H-rate customers, has been given a nominal value of one mill per kilowatt hour. It will probably command a higher price.

*Annual Financial Requirements*

114. The annual financial requirements with respect to power facilities at the Bonneville project (including 50 per cent of the joint costs) and the Bonneville transmission system, based upon completed facilities (that is, assuming that all costs chargeable to generation and transmission have been incurred), are considered in three categories, namely, fixed charges, operation and maintenance expenses, and interim replacements costs. The latter item is in the nature of extraordinary maintenance, which, together with the usual maintenance, will keep all power facilities and joint facilities in first-class operating condition con-

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tinuously during the 50-year amortization period.<sup>29</sup>

### *Bonneville Project Electric Facilities*

115. Exhibit 7 shows, for power facilities at the Bonneville project, the estimated annual financial requirements in considerable detail, under the assumption that 50 per cent of the cost of joint facilities will be allocated to electric facilities. This assumption is, of course, merely for illustrative purposes, and the statement may be adjusted readily in such manner as the Commission may desire to show comparable results for other allocations of joint costs. Fishways, being a joint responsibility, have been classified along with facilities having joint value for navigation and power development. The annual financial requirements, based upon a capital investment of \$38,340,261 for specific power facilities, plus \$20,368,047 as representing half the cost of joint facilities (total—\$58,708,308), may be stated in brief form as follows:

#### *Annual Financial Requirements Power and Joint Facilities at Bonneville Project*

Fixed Charges (interest 2.5%; amortization 1.02581%)	.....	\$2,069,943
Operation and Maintenance (specific power facilities, \$277,500; half of joint facilities, \$122, 500)	.....	400,000 <sup>30</sup>

<sup>29</sup> While it is possible, or perhaps probable, that Congress will enact legislation requiring that annual payments in lieu of state and local taxes be made on behalf of the Bonneville power system, and also that payments be made on account of headwater benefits, these elements of annual costs are not dealt with in the following statements because such payments are not now authorized or required. As indicated in paragraph 127 of this report, however, these items together might total about \$750,000 per year.

<sup>30</sup> The operation and maintenance costs were estimated by the U. S. Engineer Department at the request of the Commission.

Interim Replacements <sup>31</sup> (specific power facilities, \$311,393; half of joint facilities, \$31,421)	.....	342,814
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Total	.....	\$2,812,757
Annual financial requirements expressed as per cent of capital cost	.....	4.791

### *Bonneville Transmission System*

116. At the request of the Chief Engineer, the Bonneville Power Administration, after estimating the capital cost of the Bonneville transmission system at \$42,660,000, prepared an estimate of the annual financial requirements with respect thereto, which, as slightly modified to give effect to supplemental data supplied on March 12, 1945, by the BPA staff, is shown in brief form as follows:<sup>32</sup>

<i>Annual Financial Requirements</i>		
<i>\$42,660,000 Bonneville Transmission System</i>		
Fixed Charges (interest 2.5%; amortization 1.02581%)	.....	\$1,504,111
Operation and Maintenance	.....	1,156,796
Interim Replacements	.....	707,729

Total	.....	\$3,368,636
Annual financial requirements ex- pressed as per cent of capital cost	.....	7.897

117. As shown in the Transmission section of this report, the Commission's staff gave careful consideration to the BPA estimate of capital cost and concluded that it was moderately too high; and after mature consideration, it has been recommended that the Commission proceed under the

That Department built the Bonneville project and maintains and operates it (see Exhibit 10 herewith. [Omitted]).

<sup>31</sup> Exhibit 9 shows estimate of interim replacements annuity in detail. The annual financial requirements for this purpose were determined by Senior Engineer Lesser S. Wing of the Commission's staff, in collaboration with representatives of the Corps of Engineers, Bonneville Power Administration, and Bureau of Reclamation.

<sup>32</sup> Exhibit 8 shows estimated annual financial requirements for Bonneville transmission system.

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assumption that the capital cost of the transmission lines and substations, and facilities and structures appurtenant thereto required by § 2(b) of the Act, will be \$40,000,000. About 70 per cent of the cost of these facilities, collectively called the Bonneville transmission system, was incurred prior to July 1, 1944. The estimated financial requirements for the \$40,000,000 system, prepared in exactly the same manner as was the BPA estimate, are shown below:

### *Annual Financial Requirements*

<i>\$40,000,000 Bonneville Transmission System</i>	
Fixed Charges	\$1,410,324
Operation and Maintenance	1,146,796
Interim Replacements	663,600
Total	\$3,220,720

Annual financial requirements expressed as per cent of capital cost 8.052

### *Combined Annual Financial Requirements*

118. Combining the annual financial requirements of the Bonneville project and of the \$40,000,000 Bonneville transmission system, the total is found to be as follows:

### *Annual Financial Requirements Generation and Transmission*

Electric facilities at Bonneville project	\$2,812,757
Bonneville transmission system ..	<u>3,220,720</u>
Total	\$6,033,477
Estimated ultimate capital cost ..	98,708,308
Total annual financial requirements expressed as per cent of capital cost ..	6.1124

119. Thus it is seen that if the Federal investment in facilities for the generation, transmission, and sale of Bonneville power had been \$98,708,308 as of July 1, 1944, the estimated average annual cost of the Bonneville power, delivered at the market (3-

532,848,000 kilowatt hours per year), during the 50-year amortization period would be \$6,033,477, or 1.708 mills per kilowatt hour.

### *Cost of Bonneville Energy at the Market and at the Plant Bus*

120. The actual situation as of July 1, 1944, was, however, as follows: Of the anticipated ultimate capital cost of \$98,708,000, only about \$86,128,000 had been expended (\$57,803,000 for specific power facilities and joint facilities at the Bonneville project; and approximately \$28,325,000 for transmission facilities and related general facilities). Capital costs remaining to be incurred amount to about \$12,580,000, of which \$11,675,000 is for transmission facilities and \$905,000<sup>23</sup> for Bonneville project electric facilities. It is assumed that the remaining transmission costs will be incurred during the five fiscal years ending June 30, 1949, according to the program shown in paragraph 50.

121. Moreover, a calculation by the Commission's staff, based upon revenue data supplied by the Bonneville Power Administration, and expense data supplied by both the BPA and the U. S. Engineer Department, indicates that \$4,528,000 of the aforementioned combined Federal investment in Bonneville generation and transmission facilities was recovered by the United States prior to July 1, 1944.

122. In view of the fact that \$12,580,000 of the \$98,708,000 estimated total capital cost has not as yet been incurred, and hence that part of the investment will necessarily be made

23 This figure is based upon the assumption that 50 per cent of the cost of joint-use facilities at the Bonneville project will be allocated to electric facilities.

<sup>23</sup> This figure is based upon the assumption that 50 per cent of the cost of joint-use facilities at the Bonneville project will be allocated to electric facilities.

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some years subsequent to the focal date, July 1, 1944, and also of the fact that \$4,528,000 of the government's combined investment in electric facilities for the generation, transmission, and sale of Bonneville power was recovered by the Treasury during the development and equipment-installation period ended June 30, 1944, the aggregate annual costs will be less than the \$6,033,477 shown in paragraph 119 above. Giving appropriate consideration to the time distribution of costs yet to be incurred, and to the calculated recovery of \$4,528,000 of the government's investment prior to July 1, 1944, and using an interest rate of 2.5 per cent per annum, the Commission's staff has made a calculation which indicates the proper value of the estimated average annual costs during the 50-year amortization period to be \$5,781,000.

123. The \$5,781,000 shown at the end of paragraph 122 above is the estimated average annual cost *at the market* of Bonneville power deliveries to customers during the 50-year amortization period commenced July 1, 1944. Estimated annual energy deliveries, as computed from the revenue-producing units shown in paragraph 78, amount to 3,532,848,000 kilowatt hours, the indicated average cost of which, at the market, is 1.636 mills per kilowat hour.

124. The corresponding estimated unit cost of the energy at the plant bus is 0.709 mill per kilowatt hour.

### *Consideration of the Share of the Cost of Joint Facilities That Power May Fairly Bear*

125. It has been concluded that, under what seems to be a proper inter-

pretation of the Act, 50 per cent of the cost of joint facilities at the Bonneville project is the maximum permissible limit of the contemplated allocation of such costs to electric facilities. If it should be found that power can readily bear—and fairly bear—50 per cent of the joint costs, as compared with what navigation and other purposes may fairly bear, it would appear to be in order to make the maximum permissible allocation to "electric facilities."

126. The question of what part of the Bonneville joint costs and of the total Bonneville project costs navigation may fairly bear has been touched upon in paragraphs 107 to 110, above, and the Commission's attention has been invited to the views of the Office of the Chief of Engineers, War Department, on this subject. That office has expressed the opinion that an allocation of 50 per cent of the joint costs to navigation would be appropriate.

127. On the basis of Bonneville rate schedules now in effect and of a 50 per cent allocation of joint costs to electric facilities, and assuming the sale of 372,000 kilowatts of 90-per cent-load-factor firm power at \$17.50 per kilowatt year; 80,000,000 kilowatt hours of secondary energy at 2.5 mills per kilowatt hour; and assigning a nominal value of one mill per kilowatt hour to the remaining 520,000,000 kilowatt hours of secondary energy, it is found that the annual gross revenues would exceed the aggregate annual financial requirements, including provision for amortization of the capital costs, by the margin of \$1,449,000 per year. It is anticipated, however, that in addition to Bonneville's

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present and future obligations to contribute to the economic justification of headwater improvements beneficial to the Bonneville project, the Congress, in establishing a permanent administration, will provide for annual payments in lieu of state and local taxes; and if such payments should be on the same basis as those made by the Tennessee Valley Authority under the act of Congress establishing that agency, this item and the headwater improvements obligation might together amount to about \$750,000 per year. Thus, the indicated excess of annual revenue over annual costs would be reduced to about \$700,000; and there would be no assurance that the margin would be this large, as that would depend principally upon the degree of success the management might have in disposing of secondary energy.

128. The rates at which Bonneville power shall be sold will be based upon the Commission's allocation of costs, and if the Commission should allocate to "electric facilities" 50 per cent of the joint-facilities costs at the Bonneville project it appears that, in view of the present and prospective financial obligations of the Bonneville power system, the rates now in effect could not be substantially lowered. It is desirable and necessary that the annual revenue exceed the annual costs by a reasonable margin.

129. It is concluded that power may fairly bear the maximum permissible share of the Bonneville project joint costs; that is, 50 per cent of such costs.

### *Unemployment Relief*

130. As stated in paragraph 12, the commencing of construction of the Bonneville project was occasioned by the government's effort to provide work for unemployed people during a period of extreme business depression and widespread unemployment. Believing that the necessity for complying with the provisions of the National Industrial Recovery Act and the numerous rules and regulations thereunder resulted in some increase in the cost of the project, the Chief Engineer caused a study to be made of this matter in 1937. Notes prepared at that time have been reviewed recently, and a memorandum on the subject prepared in this office.

131. The officers and civilian engineers of the U. S. Engineer Department feel that the use of relief labor on the Bonneville project did not appreciably affect the costs, and express the opinion that even if the costs were increased, it would not be possible to determine the amount of the increase.

132. As a result of the study by the Commission's staff, however, it was concluded that conduct of the work for the relief of unemployment during the first three or four years of the construction period may possibly have increased the costs by as much as \$3,000,000. However, it does not appear that any allocation to, or write-off on account of, unemployment relief would be desirable or justified, inasmuch as it would be difficult to substantiate any position that might be taken with respect to this matter.

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### *Wartime Program for Expediting Installation of Bonneville Gen- erating Equipment*

133. In December, 1941, immediately after the attack on Pearl Harbor, an expedited final-stage construction program was adopted by the War Department with a view to the installation of all remaining generating units in the Bonneville power plant as rapidly as possible. This action was taken as a wartime national defense measure.

134. Recognizing that this expedited program necessarily resulted in some increase in the cost of the Bonneville project, the Chief Engineer requested the U. S. Engineer Department to prepare an estimate of the amount of such increase. The estimate, prepared by the U. S. Engineer Office at Portland, Oregon, indicates an increase in cost of \$2,715,720<sup>34</sup> reasonably attributable to the rush program. It would hardly be appropriate, however, to write off any part of the Bonneville project costs on this account, because the power load available to Bonneville due to the war increased as rapidly as generating facilities could be installed to serve it, with a resulting increase in revenue which much more than counterbalanced the aforementioned increase in project costs.

135. It may be of interest to the Commission to note from Exhibit 12 herewith that during the four fiscal years ended June 30, 1944, the Bonneville project generated 8,991,878,000 kilowatt hours as compared with 9,317,182,000 kilowatt hours generated at Grand Coulee, or 49.11 per cent

of the total. Grand Coulee commenced operation in March 1941.

### *Recommendations*

136. Upon the assumption that in order to complete construction of all Bonneville electric facilities, and also the joint-use facilities at the Bonneville project, it will be necessary to incur additional capital costs as follows: For facilities at the Bonneville project having value solely for power purposes, \$658,613 in addition to the \$37,681,648 incurred therefor prior to July 1, 1944; for facilities at said project having joint value for the production of electric energy and other purposes, \$492,368 in addition to the \$40,243,726 incurred therefor prior to July 1, 1944; and for transmission lines and substations, and facilities and structures appurtenant thereto required by § 2(b) of the Act, \$11,675,000 in addition to the \$28,325,000 (approximately) incurred therefor prior to July 1, 1944;

It is recommended that:

(a) The Commission immediately allocate to electric facilities the following costs: The \$37,681,648 expended prior to July 1, 1944, for facilities at the Bonneville project having value solely for power purposes; the sum of \$20,121,800 of the \$40,243,726 expended prior to July 1, 1944, for facilities at the Bonneville project having joint value for production of electric energy and other purposes; and the \$28,324,922 expended prior to July 1, 1944, for transmission lines and substations, and facilities and structures appurtenant thereto, pursuant to the provisions of § 2(b) of the Act; making a total immediate allocation of

<sup>34</sup> Exhibit 11 herewith. [Omitted.]

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costs to electric facilities in the amount of \$86,128,370.

(b) The allocation of costs to electric facilities recommended in paragraph (a) above (\$86,128,370), and each of the three component parts thereof, be made subject to future revision and readjustment by the Commission in order that the Commission may duly consider and make appropriate disposition of such capital costs as may be reported to it by the Corps of Engineers and the Bonneville Power Administration in addition to the costs already reported by those agencies.

**SMITH**, Commissioner, dissenting: The problem here—a difficult one calling for careful factual analysis and the exercise of sound and balanced judgment—is that of determining what portion of the cost of the joint power-navigation facilities at the Bonneville Dam Project can fairly be borne by electric power production and, by necessary implication, how much should be allocated to the improvement of navigation, admittedly the only other purpose or function of the project.

The total investment in such joint facilities—consisting chiefly of the dam, reservoir, and fishways—is \$40,243,726.84 as of July 1, 1944. Based upon the Report of the Commission's Chief Engineer,<sup>1</sup> referred to in the Findings and Determinations, the majority determines that only \$20,121,800 (or about 50 per cent) of this investment should be allocated to power. The result is the determination of an aggregate cost for power facilities (including transmission) of \$86,128,370.33, with the balance of the

total project cost, or \$25,905,982, remaining for assignment to some other purpose.

I can accept neither this conclusion nor the manner whereby it is reached. In my judgment not less than \$34,000,000 (or approximately 85 per cent) of the cost of the joint power-navigation facilities should be allocated as the amount which electric power production may fairly and should properly bear. On this basis, as of July 1, 1944, the total investment to be charged to power and to be amortized under the Act from Bonneville power revenues would become about \$100,000,000,<sup>2</sup> with the remainder of the total cost of the project—amounting to nearly \$12,000,000—being the maximum properly assignable to navigation.

### *Basis of Commission's Allocation*

The Report upon which the Commission's determination is based discusses, and rejects, all formulae for allocating joint-facility costs which have heretofore been used in dealing with such multipurpose projects. Some of the criticisms leveled at these familiar yardsticks and their applica-

<sup>1</sup> Hereinafter referred to as "the Report."

<sup>2</sup> Consisting of:

\$34,207,167.81	—allocated to power as 85% of the joint power-navigation investment in the Bonneville Dam Project.
37,681,648.33	—for direct power facilities at Bonneville.*
28,324,922.00	—assigned for a portion of the Bonneville-Grand Coulee transmission system.*

Total \$100,213,738.14

\* See the determination of the Commission as set forth in paragraph B of the Determinations herein.

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tion have validity. Yet, if one is persuaded to reject them all and to look for the controlling principle adopted for the instant purpose, he will be disappointed. He is advised, simply, that the result follows from the application of "informed judgment" to a situation in which the production of electric power is viewed as a mere "by-product," "incidental" to the construction and operation of the project as a whole.

Admittedly, informed judgment is indispensable to any allocation such as that here involved. It is submitted, however, that such judgment, to be useful, must be soundly exercised in an orderly and comprehensible marshalling of all the facts and relevant considerations. But the term should not be invoked in an effort either to support an indefensible conclusion or to excuse a failure to explain clearly and justify logically the methods by which it is reached.

### *Power As an Incidental By-product*

Astonishing though it may be to those who are familiar with the reasons for the construction of the Bonneville Project, the estimates of benefits submitted when it was under consideration by the Congress, and the results of its operations to date, the Report adopts the view that electric power production at Bonneville is a purely incidental by-product. This, in turn, becomes the principal bulwark for the assumption that no more than 50 per cent of the joint-facility investment can properly be assigned to power.

<sup>3</sup> Bonneville Act, Public No. 329, 75th Congress, notably in the declaration of purpose in § 1 and in relation to rate schedules and cost allocations in § 7. It is interesting to

Thus, the view is taken that, since power is by hypothesis an incidental by-product, "permissible limits" are set within which the allocation to power production must be made. These limits are said to range from zero to 50 per cent. Just how the ultimate conclusion is reached that the actual allocation should coincide with the "maximum permissible" is never made clear. Nor is any consideration given in the Report to an allocation to power of anything less than 50 per cent of the joint facility costs. It is hard to see, therefore, how any real significance can be attached to this permissible-limit zone within which "informed judgment" can be exercised by the Commission under this theory.

The assumption that these permissible limits extend from nothing to 50 per cent stems from the strained and unwarranted construction which, in my opinion, has been placed upon the language of the statute. Congress, to be sure, at several places in the Act<sup>3</sup> has referred to the improvement of navigation as the first purpose of the project and to the production and sale of electric energy in excess of operating requirements as "an incident to and a by-product of its construction." It seems to me plain, however, that in describing navigation as a "primary" purpose the Congress was not undertaking to establish a standard for cost allocation; it was simply following the familiar pattern dictated by considerations of constitutionality, a pattern which had been invoked in many other instances including even the Boul-

note, however, that 9 of the 13 sections of the Act are concerned specifically, and for the most part predominantly, with power production, distribution, and sale.

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der Canyon Project Act,<sup>4</sup> 43 USCA §§ 617-617t.

That this is more than mere conjecture is amply evidenced by the statement made by Senator Norris during the hearings on the Bonneville Project in 1936. He made the point perfectly clear when he referred to navigation as the "constitutional peg" and "the excuse . . . in the legal sense for the legislation. . . ."<sup>5</sup> Likewise the comprehensive surveys made by the U. S. Army Engineers at the request of the Congress before construction was started at Bonneville, emphasized repeatedly the fact that power development was actually the predominant reason for improving the Columbia river above tide-water.<sup>6</sup>

From the foregoing it seems to me abundantly clear that Congress recognized that power is really the principal function served by the Bonne-

ville Project. It also seems plain that the Congress—rather than settling this question of allocation by direct legislative fiat, which would have been a simple matter—chose to assign the task for impartial determination by this Commission as its agent. I do not believe that Congress intended to do a purposeless thing in referring this problem to us, as would have been the case had it intended to decide the issue in advance by means of the language referred to, thus leaving this Commission with no function to perform except that of translating some adjectives into percentages and dollars. I cannot accept, therefore, the tenuous "permissible limits" doctrine espoused in the Report as a basis for the view that no more than 50 per cent of the joint-facility costs may properly be allocated to the "incidental" or "by-product" production of electric power.<sup>7</sup>

<sup>4</sup> Public No. 642, 70th Congress, 45 Stat 1057. Section 6 of this Act states: "That the dam and reservoir provided for by § 1 hereof shall be used: First, for river regulation, improvement of navigation, and flood control; second, for irrigation and domestic uses . . . ; and third, for power." Yet it can hardly be contended, in any realistic sense, that the improvement of navigation was or is regarded as of primary significance, purpose, or consequence in the case of this project.

Likewise the legislation relating to the Grand Coulee Project (Public No. 409, 74th Congress) gives primary emphasis, in the traditional manner of such legislation, to navigation and flood control as the primary purposes of the project. This legislative language, however, has not led the Department of the Interior to write off to these functions more than a nominal amount (\$1,000,000 or 0.8 per cent) of the joint-facility investment at Grand Coulee. Of the total cost of nearly \$500,000,000 at Grand Coulee, it is estimated that power will pay out 72 per cent, although it is stated that only about one-fourth of the total cost is allocable to power, while the joint facility costs are allocated approximately 56 per cent to power and 44 per cent to irrigation. U. S. Department of the Interior, Joint Report on Allocation and Repayment of

the Costs of the Columbia Basin Project, by the Bureau of Reclamation and Bonneville Power Administration, approved by the Secretary of the Interior on January 31, 1945, Parts II and III.

<sup>5</sup> Hearings before Subcommittee of Senate Committee on Agriculture and Forestry, *Navigation and Flood Control on the Columbia River and its Tributaries*, 74th Congress, 2d Sess. (1936), pp. 33-34.

<sup>6</sup> H. Doc. 103, 73rd Congress, 1st Sess. (1933), 1845 pages. See especially pp. 3, 20, 82, 1736 and 1746.

<sup>7</sup> To emphasize the word "may," and thus to suggest that the function to be performed by the Commission is a purely discretionary one (Report, p. 27), seems to me mere sophistry. The problem is that of determining the fair share of the cost which is attributable to power production and this issue is not to be avoided by a play on words. Furthermore, this construction will not square with the view that the Commission's exercise of judgment is closely circumscribed by the so-called permissible limits—to which the Report repeatedly refers—but of which only the "maximum" has any real significance. Not even in the Report, in other words, was it suggested that anything less than 50 per cent of the joint-facility costs may fairly be assigned to power (Report, p. 58).

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### *Purposes of Allocation*

As I see it, the function of the Commission in arriving at this determination under the Bonneville Act had been stated clearly by the Congress in the following language:

" . . . Rate schedules shall be based upon an allocation of costs made by the Federal Power Commission. In computing the cost of electric energy developed from water power created as an incident to and a by-product of the construction of the Bonneville project, the Federal Power Commission may allocate to the costs of electric facilities *such a share of the cost of facilities having joint value for the production of electric energy and other purposes as the power development may fairly bear as compared with such other purposes.*"<sup>8</sup>

These rate schedules are to " . . . be drawn having regard to the recovery (upon the basis of the application of such rate schedules to the capacity of the electric facilities of Bonneville project) of the cost of producing and transmitting such electric energy, including the amortization of the capital investment over a reasonable period of years. . . ."<sup>9</sup>

It is of course true, as the majority has pointed out, that other sections of the Act contain rate-making directives to the Bonneville Power Administrator which may, in some respects and to some extent, conflict with the language quoted above. Thus, § 6 speaks of rates to encourage "the widest possible use of electricity," which by itself might imply the lowest rates conceivable regardless of the

recovery of investment. Similar language appears also in § 2(b), which refers to the provision by the Administrator of facilities in the operation of the project. Such phrases, however, and the conflicts of purpose—real or apparent—arising therefrom are, like the references to power as an incidental by-product, not uncommon in the statutes providing for the construction and operation of Federal power projects.<sup>10</sup>

Taking the Act as a whole, it cannot be doubted that the Congress intended the rates to be so constructed as to encourage the widest possible use of electricity consistent with the operation of the power project on a self-liquidating basis. As far as this Commission is concerned, the purpose of Congress seems clear and unmistakable. Evidently Congress intended the Commission, as its own disinterested agency, to so perform the functions entrusted to it as to insure, not the buttressing of any particular schedule of rates, but, in so far as practicable, the amortization of the full cost properly to be imputed to the investment in power production. Otherwise the inclusion in the Act of the provisions calling for the Commission's confirmation and approval of rate schedules designed to recover all power costs—including the amortization of the entire investment in power facilities, both direct and joint—would have been mere surplausage without point or purpose.

This necessary relationship of the problem of allocation to that of rate making is recognized throughout the

<sup>8</sup> Public No. 329, 75th Congress, § 7. Italics supplied.

<sup>9</sup> *Ibid.*

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<sup>10</sup> See, for example, the identical provisions of the Fort Peck Act (Public No. 529, 75th Congress), §§ 2(b), 5, and 6.

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Report. Indeed, the necessity and desirability of creating a situation under which annual revenues shall exceed annual costs by a reasonable margin is emphasized. This emphasis upon existing rates and the evident desire to keep the amortizable power investment at a minimum raises questions as to the basis and adequacy of the whole analysis. Since the purpose of the allocation is to provide a basis for the rates to be charged, it would manifestly be putting the cart before the horse if the allocation were to be found on some preconception as to desired rates. In my opinion, the Commission's instant determination—based upon the Report's confused approach to the problem of allocating joint-facility costs—comes perilously close to an abdication of the function which the Congress intended us to perform.

### *Other Weaknesses of the Report and Findings*

As stated above, the Report discusses various possible methods of allocating the investment in joint power-navigation facilities, but rejects them in favor of an "informed judgment in the first instance," subject, however, to the supposed "permissible limits" implied from certain language in the Act.<sup>11</sup> This leads, among oth-

er things, to the conclusion that power can "fairly"—or "readily"—bear no more than 50 per cent of the joint facility cost, although it is pointed out elsewhere that power has carried, is now carrying, and presumably could continue to bear—under rates which, according to the Bonneville Power Administration, are the lowest in the country—100 per cent of the cost of the joint facilities of the project.<sup>12</sup>

### *Excessive Allocation to Navigation Implied*

This treatment involves a number of other inconsistencies, some of which are too serious to be overlooked. For example, although both the Report and the findings and determinations carefully avoid any explicit allocation to navigation and any determination of the total investment attributable to its improvement—such allocation and determination by this Commission not being necessary under the statute—nevertheless, in view of the nature of the project, the conclusion is inescapable that the balance of the total project cost (\$25,905,982 as of July 1, 1944, or about \$27,000,000 including costs to completion) is necessarily imputed by implication to navigation. There is no other project function to which these remaining costs can be as-

<sup>11</sup> Report, pp. 38-39; 56. See also note 7, *supra*.

<sup>12</sup> See Report, p. 42 and pp. 56-58. Compare also the prediction in a Report on the Columbia Basin (Grand Coulee) Project approved by the Secretary of the Interior that "the presently effective rates of the Bonneville Power Administration are anticipated to produce revenues sufficient not only to meet the legal requirements . . . , but also to provide revenues . . . to return the power investment with interest and in addition thereto to repay all irrigation and other reimbursable costs of the project which can-

not be repaid otherwise." U. S. Department of the Interior, Joint Report on Allocation and Repayment of the Costs of the Columbia Basin Project, by the Bureau of Reclamation and Bonneville Power Administration, as approved by the Secretary of the Interior on January 31, 1945, pp. 49-53. In other words, revenues from Grand Coulee power are expected to cover, under present Bonneville rates, all the direct and allocated joint costs for Grand Coulee power and, in addition, the joint costs allocated to irrigation, as well as a large part of the direct irrigation costs.

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signed; obviously they cannot be left dangling in mid air.

The Report—in rejecting<sup>13</sup> the so-called alternative-justifiable-expenditure theory, which has been avowedly used by the Tennessee Valley Authority and by the Department of the Interior for allocating costs at the Grand Coulee Project—points to the estimated cost (furnished by the U. S. Army Engineers) of \$37,444,000 for a comparable single-purpose navigation project and discards the figure “as too high to be of any value for that purpose; that is, the \$37,444,000 would not be a justifiable expenditure.”<sup>14</sup> Apparently no one has contended that navigation could bear any such burden of investment.

Elsewhere the Report refers to the estimate furnished in September, 1944 (also by the U. S. Army Engineers), “indicating that the present value of the direct benefits to navigation made possible by the Bonneville Project is \$13,170,000.”<sup>15</sup> The Report points out—as will readily be conceded—that such estimates are not “subject to appraisal on a firm statistical basis.” It then alludes to certain “indirect, intangible, and contingent benefits<sup>16</sup> expected to result from this high-class navigation improvement,” to which

<sup>13</sup> For navigation purposes, although the estimate of \$69,383,000 for a single-purpose power project is apparently accepted without question (Report, pp. 37-38). Certain shortcomings of this figure are, however, discussed below.

<sup>14</sup> Report, p. 38.

<sup>15</sup> *Ibid.* p. 48.

<sup>16</sup> Including possible future use of the Bonneville pool by ocean-going vessels, national defense value, recreational boating, and certain intangibles such as economic stabilization and enhanced land and other values in the area, which can scarcely be called navigation benefits, as such. Furthermore, there is reference to the fact that the estimated traffic of 2,000,000 tons annually is based on the

the Deputy Chief of Engineers referred in informing the Commission that “an appropriate total allocation to navigation of Bonneville project costs would be the sum of the cost of the navigation facilities and one-half of the cost of the joint facilities.”<sup>17</sup>

This latter conclusion is accepted uncritically in the Report as an authoritative statement of “the part of the Bonneville project costs that might reasonably be borne by navigation,”<sup>18</sup> and it is referred to in the Findings of the Commission, presumably with approval. But there is, to my mind, no satisfactory explanation of the wide discrepancy in the U. S. Army Engineers’ two estimates—that of \$13,170,000 as the measure of direct navigation benefits and that of 50 per cent of the joint-facility costs (or a total determination of about \$27,000,000 on the basis of costs to completion)<sup>19</sup> as the appropriate allocation to navigation benefits. I cannot accept the several intangible and highly conjectural benefits mentioned in an effort to justify the virtual doubling of the share charged to the improvement of navigation, particularly when the result is, as here, to produce a cost for deep-water navigation of nearly \$520,000 per mile.<sup>20</sup>

assumption of additional improvements *above* Bonneville. If the benefits of such improvements are to be included, fairness would seem to dictate that the additional costs of such expected upstream improvements should likewise be taken into account. So far as appears, however, this has not been done.

<sup>17</sup> *Ibid.* p. 48 and Exhibit 6.

<sup>18</sup> Page 49.

<sup>19</sup> \$25,905,982 on the basis of expenditures to July 1, 1944. With anticipated expenditures to completion of \$750,459.94 for direct navigation facilities and a 50 per cent allocation of joint-facility costs, amounting to \$492,369.62 (Report, p. 12), the total becomes nearly \$27,000,000.

<sup>20</sup> For the approximately 50 miles involved.

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The U. S. Army Engineers estimate that 3,300,000 tons of traffic annually will move through the Bonneville pool at the end of fifty years, thus deriving an average river traffic for the 50-year period of 2,000,000 tons in support of the conclusion that capitalized direct navigation benefits could be as much as \$13,170,000. It is further stated that "the traffic prediction . . . conforms with the suggestion . . . that future traffic may be three times [sic] as great as that now using the waterway."<sup>21</sup> When the "appropriate allocation of costs to navigation" is doubled,<sup>22</sup> through consideration of "indirect and contingent benefits," the discussion makes it clear that this tonnage estimate depends, in turn, upon still further up-stream navigation improvements—the necessary costs of which, however, appear to be in no way taken into account. In this same connection general reference is made to "national defense value," as well as to "the contribution of public works construction to economic stabilization and growth and the effect of waterways in enhancing the values of land and other capital goods in the areas served."<sup>23</sup> Whatever may be the justification for introducing such indirect considerations as separate elements, certainly in allocating costs we cannot properly take cognizance of them in respect to

It might be interesting to speculate whether an attempt would be made to justify directly such an expenditure of public funds for navigation improvement or to support such a liberal estimate of navigation benefits as \$27,000,000, if it were necessary—as it is here in the case of power—to provide for the amortization of the total allocated investment through payments from the users of the facilities.

<sup>21</sup> The 3,300,000 tons would be about ~~five~~ times the average annual traffic of 633,339

navigation while ignoring them in relation to power.

Would it be suggested that navigation—but not power—strengthens the national defense, contributes to economic stabilization, and enhances community wealth? This one-sided approach obviously results in an exaggerated allocation of costs to the navigation function. Yet the result is accepted as "authoritative" by the Report, and thus becomes a basic factor in the Commission's allocation.

### *Added Costs for Unemployment Relief and Defense*

Other matters dealt with in the Report and Findings indicate a similar apparent straining to justify a minimum allocation of investment to power production. Thus, in discussing the effect of the unemployment relief program in adding to the cost of constructing the project, the Report states that this "may possibly have increased the costs by as much as \$3,000,000," but concludes that no write-off on this account "would be desirable or justified. . . ."<sup>24</sup> Nevertheless, this item is referred to specifically by the Commission in Finding 7, together with an estimate of \$2,715,000 for increased cost due to the expedited installation of generating facilities for war use, although the Report concludes that "it would hardly be appropriate . . . to write off any

tons for the 5-year period ended June 30, 1943. This estimate assumes "the completion of improvements on the Columbia and Snake rivers to Lewiston, Idaho." Report, Exhibit 6, pp. 1-2.

<sup>22</sup> The total figure of \$24,904,000 used by the U. S. Army Engineers becomes approximately \$27,000,000 if costs to completion are included. See note 19, *supra*.

<sup>23</sup> Report, Exhibit 6, p. 2.

<sup>24</sup> Report, p. 59.

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part of the Bonneville project costs on this account."<sup>25</sup>

Just what purpose is intended to be served by the inclusion of Finding 7 is not clear. So far as appears, neither of these amounts has in any way affected, or been reflected in, the Commission's allocation. More serious, however, are the inconsistencies involved in the treatment of the relationship of the proposed allocation to the rates for Bonneville power.

### *Relation to Power Rates*

Just what implications are intended to be drawn regarding existing and future Bonneville rates is not clear from the Report read as a whole. At one point, considering "the Bonneville rate level," the Report takes the position that power has been, and is, carrying 100 per cent of the joint-facility costs; on this basis revenues exceeded corresponding aggregate expenses by \$913,000 through June 30, 1944, and similarly profitable operations continued through March 31, 1945. "Hence, it may be assumed," the Report continues, "that the established Bonneville rates will either remain unchanged or be lowered."<sup>26</sup> A few pages later, however, when "the present and prospective financial obligations of the Bonneville power system" are being discussed in relation to "the share of the cost of joint facilities that

power may fairly bear," it is stated that "the rates now in effect could not be substantially lowered," even under the 50-50 allocation advocated in the Report and adopted by the Commission.<sup>27</sup>

To reach this apparently inconsistent conclusion it became necessary to introduce certain adjustments for costs not yet incurred and to make certain deductions from what might otherwise have appeared as an embarrassingly large annual profit margin of \$1,449,000.<sup>28</sup> These deductions, amounting to a rounded figure of \$750,000 per year, are supposed to cover headwater benefits, both present and future, and hypothetical payments in lieu of state and local taxes. Thus the margin of annual profit is reduced to about \$700,000. This margin, however, is then still further minimized by an expression of some doubt whether the full amount of the estimated revenues from the sale of secondary energy will be realized.<sup>29</sup> Such secondary energy had been included in the estimate of gross power revenue at \$520,000, based on "a nominal value of one mill per kilowatt hour," although it was also stated that "it will probably command a higher price."<sup>30</sup>

In thus seeking to relate the proposed 50-50 allocation of joint-facility costs to the existing rates for Bonne-

<sup>25</sup> " . . . because the power load available to Bonneville due to the war increased as rapidly as generating facilities could be installed to serve it, with a resulting increase in revenue which much more than counterbalanced the aforementioned increase in project costs." Report, p. 60.

<sup>26</sup> Report, p. 42.

<sup>27</sup> Report, pp. 56 and 58.

<sup>28</sup> Report, p. 57.

<sup>29</sup> Report, pp. 57-58. This is the more difficult to understand in view of the statement earlier in the Report (p. 50) that "several

pulp and paper plants are located along or reasonably near the high-tension lines of the Bonneville transmission system and their potential energy requirements are large enough to absorb all of the secondary energy available from the Bonneville project."

<sup>30</sup> Report, p. 50. The one mill value is then assigned to " . . . all available secondary energy classified as marketable, except 80,000,000 kilowatt hours per year assumed to be taken by H-rate customers . . . ."

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ville power—and thus in effect to support each by reference to the other—the Report properly takes as its starting point the entire project investment to completion as allocated to power production.<sup>31</sup> The joint costs of operation and maintenance are assigned according to the same ratio as that used in allocating the joint power-navigation facilities. On this basis the annual cost of power production, including full amortization of the imputed power investment over a 50-year period, is calculated as \$5,781,000. Deducting this figure from the estimated gross power revenues of \$7,230,000 yields the margin of operating profit of \$1,447,000, which is referred to in the preceding paragraph and which is then reduced by the above-mentioned deductions.

### *Deductions for Headwater Benefits and Tax Equivalents*

These deductions, amounting to \$750,000 in round numbers, are of such nature as to require some further brief comment. The first of these added hypothetical costs is the allowance for supposed headwater benefits, which are included here in the amount of about \$400,000.<sup>32</sup> In support of this allowance it is pointed out that the Bonneville prime power now benefits from the regulated flow of the Columbia river resulting from the op-

<sup>31</sup> A total, exclusive of transmission, of \$58,708,308, with \$38,340,261 for specific power facilities and \$20,368,047 as half of the cost of joint power-navigation facilities. (Report, p. 51.) Adding \$40,000,000 of allocated Bonneville-Grand Coulee transmission costs (Report, p. 53), the total becomes \$98,708,308. The Commission's present determination of \$86,128,370.33, however, is limited to the costs incurred prior to July 1, 1944, which makes for some difference of figures and possible confusion at this point. Whether the small remaining joint power-navigation costs

eration of the Grand Coulee reservoir, with its usable storage of 5,200,000 acre-feet. It is recognized that the Secretary of the Interior has already made an allocation of these benefits and has provided for the payment by Bonneville to Grand Coulee of \$187,570 annually on this account.<sup>33</sup>

The Report anticipates that additional storage will be provided above Bonneville at public expense, although where, in what amount, at what cost, and with what benefit to Bonneville operations is not indicated. It is recognized that, if such additional storage were to exceed 15,000,000 acre feet, radical changes in the Bonneville installation—presumably at some cost—would be required. It is concluded that "the Commission would not be justified, however, in giving consideration at this time to the possibility of such a change being made in the distant future."<sup>34</sup>

Evidently, therefore, the additional \$213,430 of headwater benefit charges must have to do with the future provision of some unidentified storage of less than 15,000,000 acre-feet. I can see no more logic in crossing this bridge before it is reached than in anticipating the possible future redevelopment of the Bonneville Project to utilize additional storage in excess of that figure. However, if any such additional charges for future head-

amounting to \$492,368.62 (Report, p. 12), were to be split 50-50 or in some other proportion would make little difference in the end result.

<sup>32</sup> Report, p. 47.

<sup>33</sup> Report, p. 45, citing U. S. Department of Interior, Joint Report on Allocation and Repayment of Costs of the Columbia Basin Project, by the Bureau of Reclamation and Bonneville Power Administration, approved by the Secretary of the Interior on January 31, 1945. Page 47.

<sup>34</sup> Report, p. 43.

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water benefits are to be allowed for at this time, surely it is essential that their value to the Bonneville operations likewise be appraised. And, if any such additional costs are to be taken into account, corresponding credits should be given in the power revenue estimates for any additional revenues resulting from increased sales of firm or other power made possible by such headwater improvements. Why the Report recognizes additional costs of this character and yet ignores potential increments of revenue attributable thereto is not explained.

Hypothetical payments in lieu of state and local taxes are likewise included in the deductions in the amount of \$361,000 annually, although the Bonneville Act—unlike the Tennessee Valley Authority Act—makes no provision for any such payments. This is done on the theory that “the Congress, in establishing a permanent administration, will provide for [such] annual payments. . . .”<sup>35</sup>

A strong case can be made for the payment of tax equivalents on public power production. But where, as here, the purpose is to support and justify an allocation of joint-facility costs, I see no reason for giving weight now to this highly conjectural item which may, in fact, never be translated into a payment. If to do so is to minimize the portion of the public in-

vestment which is allocated to power and correspondingly increase the portion charged off to navigation—which is not to be recovered through user payments—the result is to subsidize, at the expense of the Federal taxpayer, not only those who consume the cheap power but also the state and local governmental units which receive the payments in lieu of taxes.

### *Future Revision and Readjustment*

When discussing the relationship of the proposed allocation to the existing power rates, the Report uses for a base—as it should for that purpose—allocated power costs for the completed project, including transmission. In the concluding recommendations, however, it confines the 50-50 allocation to the expenditures for joint-facility costs which had been made prior to July 1, 1944. It further recommends the reservation—for future consideration, revision, and appropriate disposition by the Commission—of capital costs in addition to those already reported by the Corps of Engineers and the Bonneville Power Administration.<sup>36</sup> This difference is probably of not much practical significance so far as the allocation of joint power-navigation facility costs is concerned, since the balance of expenditure for joint power-navigation facilities is relatively small in comparison with the total project investment.<sup>37</sup> It is

<sup>35</sup> Report, p. 57. The amount used here is calculated on the basis and at the rate now prescribed in the Tennessee Valley Authority Act: 5 per cent of annual gross power revenues.

<sup>36</sup> Report, p. 61.

<sup>37</sup> The post-June 30, 1944 costs to completion are listed in the Report (p. 12) as:

Joint facilities .....	\$492,368.62
Power facilities .....	658,613.02
Navigation facilities .....	750,459.94
Total .....	\$1,901,441.58

This does, however, reemphasize the difference in the treatment accorded these rather definitely known outlays, which are not allocated at this time, and the highly conjectural allowances for such items as potential headwater benefit charges and hypothetical payments in lieu of taxes, which are now taken into account in support of the 50-50 allocation of joint-facility costs.

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of greater consequence with respect to the cost of the Bonneville-Grand Coulee transmission system, of which \$11,675,000 of the \$40,000,000 allocated to Bonneville has not yet been spent.

The Commission follows the recommendation that the allocation be limited to costs incurred to July 1, 1944, and, in paragraph C of the Determinations, apparently seeks to give to the 50-50 allocation ratio an air of definite finality. It should not be overlooked that this Commission does not have continuing general jurisdiction over the Bonneville power rates; rate schedules once confirmed and approved are not subject to further review unless changes are initiated by the Administrator.

In my opinion, it would be far more desirable to provide definitely for further consideration of the entire allocation whenever the need arises. This, it seems to me, is particularly important because of the many contingencies which are involved. It is reasonable to expect that at least some of the uncertainties which now exist concerning the marketing of secondary energy, payments in lieu of taxes, annual charges for headwater benefits, and the development of river traffic will be resolved within a relatively short period of time. There should be reserved an opportunity for review of these and all other relevant considerations in the light of the situation as it actually materializes. What could be lost through such a procedure or what is gained by an attempt to foreclose the issue prematurely?

This is not to say that we should not now make an allocation of joint-facility cost and a determination of the power investment. The desirability of such action at this time is clear. But I think the practical approach is to rely as much as possible on a firm factual basis and to avoid unnecessary conjecture and speculation. In other words, I would now allocate to power and to navigation the proportions of the joint-facility costs which it is now reasonably clear each can fairly bear.

### *Proposed Allocation*

It might perhaps be contended that the Bonneville power system could bear the entire investment in joint power-navigation facilities at the project. Such contention would find support, not only in the statement contained in the Report's conclusion that this was the situation to June 30, 1944 (with \$913,000 to spare), and will continue in 1945,<sup>28</sup> but also in the statement of the Bonneville Power Administration that:

"There is no doubt that power revenues themselves will cover all of the joint costs within a much shorter period [than fifty years]. In the long run, all Federal costs connected with the dam will be more than repaid into the U. S. Treasury out of power revenues, and the same costs may be equaled by savings ultimately accruing to certain groups of shippers."<sup>29</sup>

Even though an assignment to power of all the project investment except for the direct navigation costs would probably be economically feasible, it would not be proper to go this far,

<sup>28</sup> Report, p. 42.

<sup>29</sup> Memorandum to the Board of Investigation and Research-Transportation, dated April

15, 1943, quoted in H. Doc. No. 159, 79th Congress, 1st Sess.

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because it appears from the available evidence that navigation "may fairly bear" a minor share of the joint-facility costs. Hence, power should not be made to bear all of the joint costs of this dual-purpose project simply because it may be able to stand them. The problem, as stated at the outset, is that of arriving at a sound and consistent basis for distributing between the two functions served by the project the share of the costs fairly attributable to each; or, otherwise put, to give each its fair share of the savings in cost which arise from the combination of their construction and operation in a single project.

My approach to this two-sided problem rests chiefly on the plain fact that power production—by any realistic appraisal—must be recognized as the principal feature and function of the joint power-navigation project. It seems to be generally agreed that no separate navigation project providing anything like equivalent facilities would be economically feasible.

In a letter dated December 19, 1944, the U. S. Army Engineers furnished estimates of the costs of equivalent single-purpose power and navigation projects, in each instance without provision for fishways.<sup>40</sup> The estimates were \$69,383,000 for the power generating project and \$37,444,000

for the navigation project. Rejecting the "alternative-justifiable-expenditure theory of cost allocation," the U. S. Army Engineers take the position that "this theory is not applicable to the Bonneville project, because the potential benefits would not have justified the cost of facilities, solely for navigation, equivalent to those made available by the existing multiple-purpose development."<sup>41</sup> The Report agrees with this conclusion, stating that "the \$37,444,000 would not be a justifiable expenditure."<sup>42</sup>

Thus the \$37,444,000 estimate for an equivalent single-purpose navigation facility has no significance in the cost allocation. It becomes necessary and appropriate in dealing with this problem, therefore, to use the estimated cost of a single-purpose power production project in conjunction with whatever expenditure for navigation can be justified—with capitalized benefits to navigation arrived at on some reasonable basis being a proper foundation for the latter.

The estimates of direct and indirect navigation benefits supplied by the U. S. Army Engineers and relied upon in the Report to support the 50-50 allocation have already been discussed. The reasons why I attach no weight to the notion that such benefits can be appraised and capitalized at about \$27,000,000 have been stated.<sup>43</sup> The

<sup>40</sup> Report, Exhibit 5.

<sup>41</sup> Letter of September 29, 1944. See Report, Exhibit 6.

<sup>42</sup> Report, p. 38.

<sup>43</sup> It may, however, be worthwhile to point out here that on the basis of this allocation, with interest at 2.5 per cent and a 50-year amortization period, annual capital charges would be \$951,969. Allowing, as does the Report (Exhibit 10), an estimated \$172,500 for maintenance and operation, the total annual costs for navigation improvements would be

\$1,124,569. Even if the average annual traffic were to be as much as 2,000,000 tons, this subsidy would amount to 56 cents per ton, as compared with the 32 cents per ton estimated by the U. S. Army Engineers as the transportation savings to carriers using the Bonneville navigation improvements. Furthermore, if it be assumed that all of this tonnage moved through the entire 50-mile Bonneville stretch of the river, the cost to the public would be 1.12 cents per ton-mile.

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estimate for direct benefits amounts to \$13,170,000. Although not convinced that the methods used in deriving it are entirely sound, I am willing to accept it as a very liberal measure of the benefits to navigation.<sup>44</sup>

To arrive at a proper figure for an equivalent single-purpose power production project it is necessary to increase the estimate of \$69,383,000<sup>45</sup> to provide for the fishways, which would be no less necessary in a project constructed solely for power than in the dual-purpose project actually built. Adding the actual cost incurred for the fishways as constructed \$7,816,-848,<sup>46</sup> the figure becomes \$77,-199,848 for the power project exclusive of transmission facilities, which are not involved in the allocation of the joint-facility costs between power and navigation.

Both the \$77,199,848 for power and the \$13,170,000 for navigation of course contemplate completed and fully operating facilities. Therefore the deductions from these amounts of the expenditures for direct power and direct navigation facilities should be their full costs to completion (\$38,-340,261 and \$6,534,515, respective-

ly). These deductions leave \$38,859,-587 for power and \$6,635,485 for navigation as the amounts to be used in determining a ratio for allocating the joint-facility costs (\$40,736,095 to completion). Thus the allocation becomes 85.4 per cent, or \$34,788,625, to power and 14.6 per cent, or \$5,-947,470, to navigation.<sup>47</sup> Adding the direct outlays for power and navigation, respectively, the portion of the entire investment in the completed project (exclusive of transmission facilities) which is imputed to power production becomes \$73,128,886 and that assigned to navigation is \$12,-481,985.<sup>48</sup>

These amounts are to be compared with \$77,199,848 and \$13,170,000, representing the estimated cost of a single-purpose power production facility and the capitalized estimated benefits to navigation. Hence, under this allocation, each function shares in the savings resulting from its association with the other in a dual-purpose project—as it should. If, however, as little as 80 per cent of the joint-facility investment were charged to power, with the remaining 20 per cent assigned to navigation, power would benefit greatly from the asso-

<sup>44</sup> The Bonneville allocation problem is carefully analyzed, with special reference to its navigation aspects, in H. Doc. 159, 79th Cong., 1st Sess., Report of the Board of Investigation and Research—Transportation, Public Aids to Domestic Transportation. It is there concluded (Appendix W) that approximately \$11,000,000 of the capital outlay might properly be charged to navigation; and, again, that " . . . an allocation to navigation of a relatively small share, perhaps 10 to 15 per cent, of the joint costs . . . might be justified."

<sup>45</sup> Estimated by the U. S. Army Engineers on the basis of 1934-1935 prices. Costs during the actual construction period at Bonneville would probably have been greater.

<sup>46</sup> Report, Exhibit 3.

<sup>47</sup> Application of the same procedure to the

joint-facility costs incurred to July 1, 1944—which are those allocated by the Commission's determination and total \$40,243,726.84—produces an allocation ratio of 84.2 per cent to power and 15.8 per cent to navigation. By this method the joint cost assignment to power production becomes \$33,855,218, which is rounded off to \$34,000,000 in the statement at p. 293 to give a direct comparison with the Commission's allocation of \$20,121,800 of these joint-facility costs to power on a 50-50 basis as of July 1, 1944.

<sup>48</sup> This accounts for the entire project cost to completion, excluding transmission facilities, of \$85,610,871 (Report, p. 12). With transmission included at \$40,000,000, the total completed project cost becomes \$125,610,871, with \$113,128,886 charged to power production.

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ciation, but the imputed navigation investment would exceed by more than \$1,500,000 the capitalized benefits to navigation as liberally estimated by the U. S. Army Engineers.<sup>49</sup> Such a disposition of Bonneville costs would seem on its face to be clearly improper. The only way in which this result could be rationalized would be to inflate the value to navigation by resort to various "intangible, indirect, and contingent benefits" to navigation. But, as already pointed out, such a procedure cannot be justified as a means of supporting a higher charge-off to navigation.<sup>50</sup>

In any event it is clear that the uppermost limit of a proper allocation of joint-facility costs to navigation is set by the very liberal estimate of capitalized navigation benefits given by the U. S. Army Engineers. If from this \$13,170,000 figure is deducted the \$6,534,515 expenditure for direct navigation facilities, the remainder (\$6,635,485) is 16.3 per cent of the total joint-facility cost of \$40,736,095 which is to be allocated.

From the foregoing analysis it is my conclusion that power may fairly bear 85.4 per cent (rounded off at 85 per cent) of the cost of the joint power navigation facilities at Bonneville. On this basis the allocation of

joint-facility costs should be about \$34,800,000. With expenditures for direct power facilities of \$38,340,261 and allocated transmission costs of \$40,000,000, the power investment in the completed project becomes approximately \$113,100,000. Of the total project cost amounting to about \$125,600,000, a balance of \$12,500,000 remains to be written off against navigation.

### *Relationship of Power Costs and Revenues*

In the Report it was found that, with the 50-50 allocation advocated therein, estimated power revenues under existing Bonneville rates would exceed annual power costs "by the large margin of \$1,449,000 per year." This margin was then reduced to \$700,000 by sundry deductions amounting to \$750,000, of which only the \$187,570 charge for headwater benefits now enjoyed seems to me to be justified at this time. And this \$700,000 figure was further minimized by an expression of doubt as to the marketability of secondary power even at the low rate of one mill per kilowatt hour.

Using the same cost elements and rates of interest and amortization—but allocating to power 85 per cent of

<sup>49</sup> On this basis the figures would become:

For Power	
Imputed Investment	..... \$70,929,137
Cost of Alternative Project	... 77,199,848
For Navigation	
Imputed Investment	..... 14,681,734
Capitalized Benefits	..... 13,170,000

<sup>50</sup> Another test which might be applied is that of deducting the capitalized navigation benefits of \$13,170,000 from the total project costs to completion (excluding transmission) of \$85,610,872, charging the remaining \$72,440,872 to power production. After deduction of the direct power facility costs of \$38,340,261, this would amount to an allocation of

\$34,100,611 of the joint-facility costs, or 83.7 per cent, to power.

The fault of this method is that it would charge against navigation the full capitalized value of the project to that function, and thus would fail to give to navigation any share of the advantage resulting from its association with power in the dual-purpose project. The method could as well be reversed, with power charged the full estimated cost of an equivalent single purpose power production facility. This would mean an allocation to power of \$77,199,848, with only \$8,411,024 of the total project cost remaining for assignment to navigation.

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the investment in joint facilities and the same proportion of the costs of operation and maintenance—the margin between annual power costs and estimated power revenues under existing Bonneville rates becomes about \$716,000 annually. If from this figure is deducted the actual charge for present headwater benefits (\$187,570), there remains a balance of more than \$525,000 annually, which would seem ample to take care of all reasonable contingencies.<sup>51</sup> In this situation there is no apparent need to overload the amounts charged off to navigation improvements in order to demonstrate the soundness of the power investment.

### Conclusion

It has been necessary to analyze the Report, Findings, and Determinations in some detail to point out the basis for the Commission's allocation of half the joint-facility costs to power production, and to develop the reasons why I cannot concur in this determination.

The Report proceeds from the false premise that, under the Bonneville Act, the Commission cannot properly find that power "may fairly bear" more than 50 per cent of these joint costs. Having made this assumption, the Report attempts to show that as much as 50 per cent of such costs can reasonably be charged-off to navigation improvement. Here it becomes necessary to accept uncritically the conclusion of the U. S. Army Engineers that this is so, although the inflated estimate of navigation bene-

fits advanced to lend it economic justification will not, in my judgment, stand careful scrutiny. I have proposed an allocation, based upon what seems to me to be the realities of the situation, charging 85 per cent of the joint-facility investment to power.

Having chosen the 50-50 pattern, the Report tries to demonstrate that it is doubtful whether power could or should bear a greater share of the joint costs. In this unsuccessful effort, methods of dubious validity are employed and certain contingencies are dealt with as though they were present realities. But the demonstration is without much point anyway. The preceding analysis shows that, considering existing conditions and reasonable prospects as to power sales, the existing power rates would yield a good margin over costs calculated on the 85 per cent basis which I believe proper.

In further support of the 50 per cent allocation to power, the Commission, in Finding (8), alludes to "the parity in importance of low cost transportation and power to the development of the resources of the region." This sweeping generalization has no bearing upon the question of what is the proper cost allocation. It assumes the answer at the outset and, with particular reference to the Bonneville situation, it ignores the plain fact that the power production program is of much greater significance than the improvement of navigation. For the majority to call this "consistent with the intent of the Congress" does not make it so. More-

<sup>51</sup> The more exact figure is \$528,430. This is more than sufficient to offset the \$520,000 of estimated revenues from sales of secondary

energy, concerning the marketability of which the Report seems to have some doubt.

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over, in view of the \$27,000,000 navigation investment necessarily implied by the Commission's determination and the reasonably prospective traffic, this outlay can hardly be characterized as providing low cost transportation. Incidentally, the majority's allusion to "the parity of importance" is scarcely consistent with the position taken elsewhere that electric energy is an "incidental byproduct."

If the Congress had intended such an "equal apportionment theory" to be applied in this case it could very easily have fixed the allocation in the Act itself. Clearly, however, Congress expected us, as its agent, to determine the portion of the Bonneville investment which power may fairly

bear, and to provide for the liquidation of the power investment over a reasonable period from power revenues. In my opinion this has not been done; the investment attributed to power has been unduly and unnecessarily minimized.

It is regrettable that this opportunity for the Commission to pass well-considered judgment on this major problem of cost allocation has not been met more effectively and realistically. A consistent and balanced treatment of such allocations—far from jeopardizing the success of sound public power projects—would strengthen public confidence in those projects which are economically justified, as I am convinced this one is.

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## DISTRICT OF COLUMBIA PUBLIC UTILITIES COMMISSION

### Re Washington Gas Light Company

Order No. 2933, P.U.C. No. 2424, G. D. No. 1792,  
Formal Case No. 347  
July 12, 1945

**A**PPPLICATION for authority to issue and sell refunding mortgage bonds and motion that requirements of competitive bidding rule be waived; granted.

*Security issues, § 112 — Competitive bidding — Exemption of refinancing.*

1. Exemption from a competitive bidding rule should be granted for the sale of refunding mortgage bonds when the Commission is satisfied that the terms, conditions, price, and yield are fair and reasonable under a proposal for private sale to insurance companies, while a public sale would incur expense and delay with the risk of many imponderables in the bond market, p. 312.

*Accounting, § 30 — Redemption premiums — Duplicate interest on refunding.*

2. A proposal to charge earned surplus with redemption premiums and duplicate interest on refunded issues and to credit surplus with unamortized premiums and reduction in income taxes resulting from proposed refinanc-

## RE WASHINGTON GAS LIGHT CO.

cing is permissible under the Uniform System of Accounts for gas utilities, p. 315.

### By the COMMISSION:

#### *Nature of Application*

Washington Gas Light Company (hereinafter referred to as the "Company") has filed an application for a certificate of authority to issue and sell \$13,855,000 principal amount of refunding mortgage bonds, 3½ per cent series due 1970. The Company also applied for authority to execute a new supplemental indenture to be dated as of June 1, 1945, supplemental to its mortgage and deed of trust dated January 1, 1933, for the purpose of creating and defining the terms and provisions of said issue of refunding mortgage bonds, 3½ per cent series due 1970 and amending said mortgage and deed of trust.

The application contains a motion that the requirements of Order No. 1465 (1935) 12 PUR(NS) 9, of this Commission with respect to competitive bidding be waived with respect to this application.

A public hearing was held on July 9, 1945, after appropriate notice. Testimony for the Company was presented by Robert C. Owers, vice president and treasurer.

#### *Securities to Be Issued*

As previously stated, the Company proposes to issue and sell \$13,855,000 principal amount of refunding mortgage bonds, 3½ per cent series due 1970. The bonds will be sold at a price of 103.87 per cent of their principal amount, plus accrued interest from June 1, 1945, to the date of delivery, with a yield to the purchasers of 2.90 per cent per annum.

The bonds are to be issued under and to be secured by a supplemental indenture, dated as of June 1, 1945, between the Company and The Riggs National Bank of Washington, D. C., trustee, which will be supplemental to the Company's refunding mortgage dated January 1, 1933.

The Company proposes to sell all of the \$13,855,000 principal amount of 3½ per cent bonds to the following purchasers, in the respective principal amounts listed below:

The Northwestern Mutual Life Insurance Company .....	\$5,000,000
John Hancock Mutual Life Insurance Company .....	3,000,000
Massachusetts Mutual Life Insurance Company .....	2,000,000
New England Mutual Life Insurance Company .....	1,500,000
Acacia Mutual Life Insurance Company .....	925,000
The Mutual Benefit Life Insurance Company .....	500,000
State Annuity and Investment Board of Wisconsin .....	320,000
Provident Mutual Life Insurance Company .....	310,000
Life Insurance Company of Virginia .....	300,000
	\$13,855,000

The supplemental indenture will contain the following provisions, among others:

The Company covenants that, so long as any of the bonds of the 3½ per cent series due 1970 are outstanding, it will not declare or pay any dividend on shares of its common stock (other than dividends payable in common stock of the Company) or make any distribution on shares of its common stock, or purchase, redeem, retire, or otherwise acquire for a consideration any shares of its common stock (other than with the proceeds

## DISTRICT OF COLUMBIA PUBLIC UTILITIES COMMISSION

of additional stock financing), except, in any fiscal year subsequent to December 31, 1944, out of net income on a consolidated basis earned during such fiscal year, or except out of earned surplus on a consolidated basis earned subsequent to December 31, 1940. For the purpose of this provision, in determining the amount of net income or earned surplus on a consolidated basis earned subsequent to December 31, 1940, no deduction shall be made for certain direct charges which are stipulated in the supplemental indenture; such as, charges applicable to periods prior to December 31, 1940, charges to write off unamortized debt discount, premium or expense applicable to funded debt and charges covering any loss on the sale or abandonment of property or arising from the sale of property. This provision has the effect of limiting the surplus out of which dividends may be declared and paid to a maximum of approximately \$1,075,000 as of December 31, 1944.

The Company also covenants and agrees that all properties owned on June 30, 1942, excluding work in progress not placed in service, shall be deemed to be "bonded."

The supplemental indenture also provides that the Company will, out of earnings arising subsequent to January 1, 1936, provide for depreciation and expend for maintenance an aggregate amount equal to at least 10 per cent of operating revenues arising subsequent to January 1, 1936, subject to limitations as to depreciation allowances for rate-making purposes imposed by proper regulatory authority.

The Company will be required to

deposit annually with the trustee an amount of cash equal to 1 per cent of the principal amount of new bonds outstanding on April 1 of each year; however, there may be credited against this cash requirement (a) an amount equal to 60 per cent of the cost or fair value (whichever is less) of bondable property additions; (b) an amount equal to the aggregate principal amount of underlying bonds hereafter deposited with the trustee or hereafter paid by redemption or at maturity, and in no case theretofore bonded; (c) an amount equal to the aggregate principal amount of prior lien bonds hereafter deposited with the trustee or hereafter paid or purchased or reduced, and in no case theretofore bonded; and (d) an amount equal to the aggregate principal amount of bonds of the 3½ per cent series of 1970 theretofore paid at maturity or by redemption, or purchased or otherwise surrendered to the trustee and canceled, and in no such case theretofore bonded or made the basis for the issue of other bonds.

The bonds will be entitled to the benefit of a cash sinking fund for their retirement in an amount sufficient to retire the following principal amounts of bonds:

1946-1950, inclusive .....	\$180,000	per year
1951-1955, " .....	200,000	" "
1956-1960, " .....	220,000	" "
1961-1965, " .....	250,000	" "
1966-1970, " .....	260,000	" "

The initial premium to be paid upon redemption of any of the new bonds through operation of the sinking fund shall be 3.87 per cent, with such premium decreasing each year until June 1, 1969, on and after which date the new bonds will be redeemable

## RE WASHINGTON GAS LIGHT CO.

through operation of the sinking fund without premium.

The initial premium to be paid upon redemption of any of the new bonds otherwise than through operation of the sinking fund will be 7 per cent, with such premium decreasing on June 1, 1948, and each year thereafter until June 1, 1969, on and after which date the new bonds will be redeemable without premium.

### *Use of Proceeds*

The proceeds from the sale of the bonds, together with such amounts from the treasury of the Company as may be necessary, will be used for the following purposes:

(a) To retire, in part by purchase and in part by redemption, all of its refunding mortgage bonds, 4% series due 1963—

Principal Amount	\$8,180,000
Premium of 4%	327,200
	<hr/>
	\$8,507,200

(b) To retire, in part by purchase and in part by redemption, all of its refunding mortgage bonds, 3½% series due 1963—

Principal Amount	\$4,750,000
Premium at 4½%	213,750
	<hr/>
	4,963,750

(c) To purchase from Acacia Mutual Life Insurance Company, the holder thereof, and retire its first mortgage real estate note—

Principal Amount	\$925,000
Premium of 7%	64,750
	<hr/>
	\$14,460,700

### *Effect of Proposed Refinancing*

The proposed refinancing will effect a gross saving in interest charges on long-term debt, before income taxes,

of \$1,937,237 over the remaining life of the securities to be refunded. After giving consideration to redemption premiums and duplicate interest, the net saving in interest over the same period will amount to \$1,336,856, before income taxes. The immediate effect will be a saving in income taxes for the year 1945 of \$258,169, due to the write-off of redemption premiums and duplicate interest. The effect upon income taxes in future years cannot be determined at this time, due to uncertainty as to tax rates which may prevail. The operation of the proposed sinking-fund provisions will result in the retirement of 40 per cent of the principal amount of the new bonds by maturity, as contrasted with the presently scheduled retirement of approximately 25 per cent of principal amount of the debt to be refunded.

Simplification of the capital structure of the Company will also result, by reason of the substitution of a single series of bonds for two different series bearing different rates of interest, and a real estate mortgage note with still a third interest coupon rate and having a first lien upon the office building owned by the Company.

### *Capitalization and Surplus*

The capitalization and surplus of the Company, on a consolidated basis, actual and pro forma giving effect to the proposed transaction as of May 31, 1945, are reflected below:

## DISTRICT OF COLUMBIA PUBLIC UTILITIES COMMISSION

	Actual Amount	Per Cent	Pro Forma Amount	Per Cent
<b>Long-term Debt:</b>				
General Mortgage 5% Bonds due 1960 .....	\$5,199,500		\$5,199,500	
Refunding Mortgage Bonds				
4% Series due 1963 .....	8,180,000		.....	
3½% Series due 1963 .....	4,750,000		.....	
3½% Series due 1970 .....	.....		13,855,000	
G.G.L. Co. 1st Mortgage 5% Bonds due 1961	1,000,000		1,000,000	
Real Estate Mortgage Loan 3½% due 1967 ..	925,000 <sup>1</sup>		.....	
 Total Long-term Debt .....	 \$20,054,500	 49.52	 \$20,054,500	 49.95
 <b>Preferred Stock—No Par:</b>				
\$4.50 Cumulative Convertible Preferred .....	\$6,000,000		\$6,000,000	
\$5.00 Cumulative Preferred .....	4,000,000		4,000,000	
 Total Preferred Stock .....	 \$10,000,00	 24.70	 \$10,000,000	 24.90
 <b>Common Stock and Earned Surplus:</b>				
Common Stock—No Par .....	\$3,650,000	9.01	\$3,650,000	9.09
Earned Surplus .....	6,788,995	16.77	6,446,925	16.06
 Total Common Stock and Earned Sur- plus .....	 \$10,438,995	 25.78	 \$10,096,925	 25.15
 Total Capitalization and Surplus .....	 \$40,493,495	 100.00	 \$40,151,425	 100.00

<sup>1</sup> Exclusive of \$6,250 instalment of principal to be repaid on or before June 30, 1945.

This statement does not reflect capital surplus of \$968,488 which has been excluded to partially offset Gas Plant Adjustments.

### Ratios

Consolidated Property, Plant, and Equipment of the Company as of May 31, 1945, after eliminating \$1,072,345.58 Gas Plant Adjustments, amounted to \$46,800,327. The reserve for depreciation as of the same date was \$5,572,100, or 11.91 per cent of consolidated plant as set forth above. Thus the adjusted depreciated value of the consolidated plant amounts to \$41,228,227.

Giving effect to the issuance of the proposed securities, long-term debt will amount to 48.64 per cent of the depreciated plant as adjusted, and long-term debt plus preferred stock outstanding will amount to 72.90 per cent thereof.

### Coverage

Based upon the results of operations of the Company for the twelve months ended May 31, 1945, adjusted to give effect to the proposed transactions on the assumption that the new series had been outstanding during this period, it is found that interest charges would have been covered three times, interest and other deductions 2.8 times, and total income deductions and preferred dividends 1.8 times.

### Competitive Bidding Rule

[1] As previously indicated, the Company requests that the proposed refinancing be exempted from the competitive bidding rule adopted by this Commission December 30, 1935, Order No. 1465, 12 PUR(NS) 9, 10.<sup>1</sup> While the Commission recognizes the desirability of competitive bidding, it does not believe that the public interest demands that this rule

<sup>1</sup> "Section 1. That applications to the Public Utilities Commission for authority to issue stocks, bonds, or other evidences of indebted-

ness payable in more than one year from date of issuance shall contain a provision that bids will be solicited from at least three responsi-

## RE WASHINGTON GAS LIGHT CO.

be adhered to in all instances but that each case should be considered on the facts peculiar to the matter under consideration.

Owers testified that before deciding on the method by which the proposed bonds might be sold the Company carefully studied the merits of both the private sale and public offering. It was estimated by the Company that the public sale method would cost the Company at least \$200,000<sup>8</sup> more than if the bonds were sold privately. A public offering would require the filing of a registration statement with the Securities and Exchange Commission. The preparation of the many documents and the necessary procedural steps incident to complying with these legal requirements, plus compliance with this Commission's competitive bidding rule, would postpone the sale of the proposed bonds for some months. Neither the Commission nor the Company has any assurance that the bond market will be as favorable in the future as it is today. Owers also pointed out that before the bonds could be offered publicly the heavy expense heretofore referred to would have to be incurred without any definite assurance as to the price at which the bonds could be sold. On the other hand, the witness stated that, in this case, through the vehicle of a private sale, the Company was able to ascertain in advance of the sale the terms and conditions of the mortgage, the price of the bonds, the yield to the

ble unaffiliated financial institutions, at least two of whom shall not be affiliated with or financially interested in the applicant, and that all bids will be submitted to the Commission."

<sup>8</sup> The witness stated that some of the addi-

purchasers, with an estimated savings in cost to the Company of at least \$200,000.

Witness for the gas company testified that one of the factors which caused the Company to decide on a private sale rather than to seek competitive bids was the fact that there is not as favorable market for gas bonds as for similar securities of certain other utilities. Owers believed this would be particularly true with respect to the proposed refinancing, since the refunding mortgage would be junior to the two 5 per cent non-callable bond issues which would still be outstanding. The Company was of the opinion that the insurance companies which now hold the bonds proposed to be refunded would be more receptive to the new bonds than would the average investor.

The Company engaged The First Boston Corporation to assist and advise it in the refinancing program. After many conferences with that corporation and after considering the advice of counsel, its officers and Board of Directors, and of informed financial people, the proposal now before the Commission was evolved. As previously indicated, it will result in gross savings in interest charges over the life of the bonds of \$1,937,237, and yield 2.90 per cent to the purchasers.

The purchasers of the bonds are all insurance companies. They include all of the owners of the bonds to be refunded, except two companies who decided to sell their present hold-

tional expense items would be S.E.C. registration fee, printing of various documents, increased fees of accountants, lawyers and trustees, allowance for underwriters' spread, financial adviser's fee and additional overlapping interest payments.

## DISTRICT OF COLUMBIA PUBLIC UTILITIES COMMISSION

ings and not participate in the new issue.

Evidence was submitted with respect to the yield to the purchasers of bonds of other gas companies. While none of the companies is strictly comparable to the local gas company, it is interesting to note that only one of the issues considered has a yield less than 2.90 per cent, and it is a first mortgage bond with a 100 per cent sinking-fund provision.

Holzbaur, manager of the Baltimore, Maryland, office of Halsey, Stuart and Company, Inc., appeared at the hearing and requested the Commission not to waive its competitive bidding rule. He offered no evidence, but merely made a statement of the position of Halsey, Stuart in the matter. He stated that this company was prepared to make a bid as of the date of the hearing, to remain open for forty-eight hours only, by which he was of the present opinion that the net cost to the Company would be more favorable than under the proposal here being considered. He was unable, however, to state what his company's bid would be.

As heretofore pointed out, if competitive bidding is required, it will perhaps be physically impossible to offer the bonds to the public for some months. Holzbaur would not state what his company might bid at that time, nor would he say that the gas company would secure a price sufficient to cover the difference between

<sup>8</sup> "Mr. Holzbaur: I am not prepared to state definitely on a competitive bid if it was left open to the fall that the Company would get a better price than that difference between the \$77,258 cost." (Difference between \$77,258 Company expense of handling present proposal and estimated expense of \$258,000 if sold publicly.) (R. 60.)

"Chairman Flanagan: Don't you think that

the expense of private and public sale.<sup>8</sup>

In the light of all of the facts of record, the Commission finds that this is a proper case for waiving its competitive bidding rule. The Commission is unimpressed by the mere statement that a bid higher than the price here being considered would be submitted by Halsey, Stuart, good only for forty-eight hours from the date of the hearing. Such an offer can be made with impunity when it is known that its acceptance is precluded by the delay inherent in competitive bidding. Holzbaur was extremely careful to avoid any commitment on behalf of his company as to its probable bid in the event the bonds were offered for public sale in the fall, and he would not say that the gas company would ultimately make a less expensive deal to it through competitive bidding than it is assured by the proposal before us. The Commission is impressed by the definite assurance of \$1,937,237 savings in interest charges, and by the avoidance of an estimated minimum of \$200,000 additional expenses which would be incurred in a public sale program. As the utility's expenses play a major part in the determination of gas rates, any savings in its expenses would be in the public interest. Because of these savings and since the Commission is satisfied that the terms, conditions, price and yield of the proposed bonds are fair and reasonable, and

Mr. Stuart (partner—Halsey, Stuart and Company, Inc.) had in mind immediate acceptance, that he wouldn't make that guarantee to stand three months from today?"

"Mr. Holzbaur: Absolutely. We never know what the market is going to do in a period of weeks, although we feel that interest rates are going to remain low for a long time."

## RE WASHINGTON GAS LIGHT CO.

further because of the unquestioned desirability of simplifying the Company's capital structure and improving its capital position, the Commission feels it would not be in the public interest to hazard the risk of the many imponderables in the gas utility bond market by insisting that the bonds be sold publicly some months hence.

### *Proposed Accounting Entries*

[2] The Company proposes to charge earned surplus with the redemption premiums and duplicate interest on the refunded issues and to credit surplus with the unamortized premium and the reduction in income taxes resulting from the proposed refinancing. The net result of the foregoing will be to reduce earned surplus by \$342,070. The premium received from the sale of the new bonds less the expenses incurred in connection with the issue will be amortized over the 25-year life of the proposed issue.

The immediate write-off to surplus of redemption premiums, duplicate interest and unamortized premiums is not consistent with the treatment accorded similar items in recent cases before the Commission involving a determination of rate of return. In those cases, in the determination of annual cost of debt capital, items of this character were treated as a continuing cost to be spread over the life of the refunding issue. However, the Uniform System of Accounts for Gas Utilities adopted by this Commission permits the Company to account for items of this nature in the manner proposed by the Company, and we will therefore not disapprove the proposed accounting entries for the purpose of this proceeding.

### *Expenses*

The Company has estimated that expenses incident to the proposed issue and sale of new bonds will aggregate \$77,325, including commission of \$32,325 payable to The First Boston Corporation (representing  $\frac{1}{4}$  of 1 per cent on \$12,930,000 principal amount of new bonds) for negotiating the deal. No details as to counsel fees were presented. The Commission will, therefore, reserve jurisdiction over such fees.

### *Conclusion*

Upon consideration of all the facts of record, the Commission concludes and finds that the proposed issue and sale of \$13,855,000 principal amount of refunding mortgage bonds, 3 $\frac{1}{8}$  per cent series of 1970, at private sale and upon the terms and for the purposes listed hereinabove, is in the public interest. Therefore,

#### *It is ordered:*

Section 1. That the provisions of Order No. 1465, *supra*, with regard to competitive bidding be, and they are hereby, waived for the purpose of this proceeding.

Section 2. That the Washington Gas Light Company be, and it is hereby, authorized to issue and sell \$13,855,000 principal amount of refunding mortgage bonds, 3 $\frac{1}{8}$  per cent series due 1970, at a price of not less than 103.87 per cent of the principal amount thereof, plus accrued interest from June 1, 1945, to date of delivery, to be issued under and secured by the mortgage and deed of trust dated January 1, 1933, as heretofore supplemented and as proposed to be supplemented and amended by a new supplemental indenture thereto to be dated as of June 1, 1945.

## DISTRICT OF COLUMBIA PUBLIC UTILITIES COMMISSION

Section 3. That the Washington Gas Light Company be, and it is hereby, authorized to execute a new supplemental indenture dated June 1, 1945, supplemental to its mortgage and deed of trust dated January 1, 1933, substantially in accord with the proof copy filed with the application as Exhibit B.

Section 4. That the proceeds received from the sale of the bonds authorized in § 2 hereof, together with such amounts from the treasury of the Company as may be necessary, shall be used for the following purposes:

(a) To retire, in part by purchase and in part by redemption, all of the Company's refunding mortgage bonds, 4 per cent series due 1963, outstanding in the aggregate principal amount of \$8,180,000, at the redemption price of 104 per cent of the principal amount thereof.

(b) To retire, in part by purchase and in part by redemption, all of the Company's refunding mortgage bonds, 3½ per cent series due 1963, outstanding in the aggregate principal amount of \$4,750,000, at the redemption price of 104½ per cent of the principal amount thereof.

(c) To purchase from Acacia Mu-

tual Life Insurance Company, the holder thereof, and thereby to redeem and retire the first mortgage real estate note of the Company outstanding in the principal amount of \$925,000, at 107 per cent of the principal amount thereof.

Section 5. That the net amount of all premiums, fees, commissions and expenses applicable to the issue and sale of the bonds authorized in § 2 hereof shall be charged or credited, as the case may be, to the income of the Company during the life of said bonds.

Section 6. That the Company shall make a certified report to the Commission not later than three months after the sale of bonds authorized in § 2 hereof, stating the moneys received therefrom and, in detail, the fees, commissions, and expenses incident to such sale.

Section 7. That the Company shall, not later than three months after the sale of bonds authorized in § 2 hereof, submit copies of the entries recorded on the books of the Company as a result of the consummation of the refinancing.

Section 8. That jurisdiction be reserved with respect to counsel fees.

OSMAN v. STATE COLLEGE BOROUGH AUTHORITY

PENNSYLVANIA PUBLIC UTILITY COMMISSION

John H. Osman et al.

v.

State College Borough Authority

Complaint Docket No. 13953  
July 24, 1945

**C**OMPLAINT against water rates of a municipal authority;  
dismissed.

*Municipal plants, § 13 — Jurisdiction of Commission — Rates.*

The Commission has no jurisdiction over rates of a municipal authority, in view of the enactment of the Municipality Authorities Act of May 2, 1945, which provides in § 4B(h) that the court of common pleas shall have exclusive jurisdiction to determine the reasonableness and uniformity of rates of an authority.

By the COMMISSION: This matter is before us on complaint of John H. Osman, E. M. Pearce, H. N. Musser, Vaughn A. Williams, William A. Ward, Harold E. Byers, and C. I. Kerstetter, filed for and in their own behalf and, as alleged, for other proper parties affected by the matters complained of.

In substance, complainants allege that respondent, State College Borough Authority, has violated various sections of the Public Utility Law in that rates demanded of consumers beyond the corporate limits of the borough of State College are unjust and unreasonable; that respondent has failed to file tariffs with the Commission and that the rates demanded from out-of-borough consumers are unreasonable and discriminatory. The complainants also allege that respondent has violated certain provisions of

the Municipality Authorities Act of 1935, PL 463 as amended.

Respondent's answer in the nature of a demurrer raises, *inter alia*, the question of the Commission's jurisdiction to determine this complaint under the law.

Whatever may have been the law at the time this complaint was filed, the question of jurisdiction has been settled beyond question by the Municipality Authorities Act of May 2, 1945, PL —, which provides in § 4B(h) as follows: ". . . The court of common pleas shall have exclusive jurisdiction to determine the reasonableness and uniformity of rates and other charges fixed, altered, charged, or collected by an authority. . . ."

Since the common pleas has exclusive jurisdiction over the rates of a municipal authority, which the re-

## PENNSYLVANIA PUBLIC UTILITY COMMISSION

spondent is, we are without power in the matter and the complaint must be dismissed for lack of jurisdiction; therefore,

It is *ordered*: That the complaint of John H. Osman, E. M. Pearce, H. N. Musser, Vaughn A. Williams, William A. Ward, Harold E. Byers, and C. I. Kerstetter at C. 13953 be

and is hereby dismissed for lack of jurisdiction.

EDITOR'S NOTE. Similarly the Commission dismissed a complaint instituted on its own motion in *Public Utility Commission v. State College Borough Authority*, Complaint Docket No. 13694, July 24, 1945.

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## INDIANA PUBLIC SERVICE COMMISSION

### Re Yellow Taxi Cab Company

No. 2764-A, 1  
July 10, 1945

**R**ECONSIDERATION of application of taxicab company for certificate authorizing operation of motor vehicles as a common carrier of passengers between a municipality and an airport; order modified.

*Corporations, § 14 — Object clause — Corporate action to change — Vote of stockholders and directors.*

1. The original object clause of a corporation engaged in motor carrier transportation remains in full force and effect without change notwithstanding a vote of stockholders in favor of the corporation availing itself of the benefits of the provisions of Chap. 192 of the Acts of 1907, which pertained to corporations other than municipal and common carrier corporations, if the action of the stockholders has not been ratified by the board of directors and a certified copy of the minutes of the meeting filed with the secretary of state, p. 319.

*Certificates of convenience and necessity, § 49 — When required — Passenger transportation by limousine — Taxicab company.*

2. A taxicab company authorized to operate taxicabs between an airport and a city must obtain a certificate of convenience and necessity in order to operate limousines as a common carrier of passengers between the city and the airport, since the limousines, each with a capacity of at least seven passengers in addition to the driver, do not come within the definition of a taxicab under the laws of the state, p. 319.

**APPEARANCES:** For applicant George Cowan, attorney, Indianapolis, and Isadore Fine, of Meyer &

Fine, Evansville; for protestants James L. Beattey, attorney, Indianapolis; William A. Mitchell, attorney,

## RE YELLOW TAXI CAB CO.

Evansville, and William Fitzgerald, attorney, Evansville, for Air-Line Service, Inc.

By the COMMISSION: On the 16th day of March 1945, pursuant to public hearing had in the above cause, with appearances as above noted, this Commission entered an order approving the application of the applicant for a certificate of public convenience and necessity to operate motor vehicles as a common carrier of passengers intrastate as follows, to wit:

Between Evansville, Indiana, and the Evansville Municipal Airport and Air Field, over all necessary city streets and highways within the corporate limits of the city of Evansville, Indiana, and over U. S. Highway 41 and Indiana Highway 57.

That said order further provided that the applicant be restricted to the transportation of passengers between Evansville, Indiana, and the Evansville Municipal Airport and Air Field.

That on the 5th day of April, 1945, the protestant, Air-Line Service, Inc., of Evansville, Indiana, filed its written motion for reconsideration of said order so above granted, which motion is in the following words and figures to wit: (H. I.), along with a written memoranda and authorities in support of said motion.

[1, 2] In its motion for reconsideration, the protestant raises two principal points, to wit, (1) that the operation sought by the applicant as a common carrier would be ultra vires for the reason that said applicant availed itself with the benefits of the provisions of Chap 192 of the Acts of 1907, which pertained to corpora-

tions other than municipal and common carrier corporations, and in said acceptance limited the purpose of the corporation accordingly, and (2) that since the applicant is organized as a taxicab company and has been so operating not only within the corporate limits of the city of Evansville, Indiana, but within the suburban area thereof, permitted by statute, that no certificate of public convenience and necessity is necessary for the reason that the applicant already has such authority.

In disposing of point (1), as above noted, this Commission, having examined protestant's Exhibit "I" introduced in evidence in said cause, the same being a certified copy of the Articles of Incorporation of the applicant company, together with a transcript of the minutes of a special meeting of the stockholders and special meeting of the board of directors thereto attached, finds that, while the Act of 1907, referred to above, provides that any such corporation may avail itself of the provisions of such act, it must do so not only by a vote of the stockholders of the corporation, but that the same must be ratified by a like vote of its directors, and, quoting the statute, "when a copy of the minutes of said two meetings, certified as aforesaid, shall be filed in the office of the secretary of state of the state of Indiana, . . . from the time of such filing and payment of fees, the authorized objects or scope of the corporation shall be defined, limited or enlarged, by said resolutions."

Protestant's Exhibit "I" fails to indicate that the statute was complied with in this respect, that it fails to

## INDIANA PUBLIC SERVICE COMMISSION

show the ratification of the action of the stockholders by the board of directors, and accordingly it is the opinion of this Commission that, since such action was accordingly without effect, the scope of the original object clause of the corporation continued to and still does remain in full force and effect without change.

This Commission further finds that, while the original object clause of the corporation is far from clear, the applicant was, from the time of its incorporation, authorized to do an omnibus business as well as a taxicab business.

As to point (2) above, the Commission finds that the applicant is now and has been engaged in the taxicab business within the meaning of and as defined by the laws of the state of Indiana and that as to the operation of such taxicabs to and from the airport from the city of Evansville, no further authority need be granted.

However, the evidence in the cause shows that the applicant operates two limousines, each with a capacity of at least seven passengers, in addition to the driver, which limousines do not come within the definition of a "taxi-

cab" under the laws of the state of Indiana. That these limousines are used mainly for the transportation of passengers to and from the airport and from various points within the city of Evansville, depending upon where the passengers may be.

To the extent that said limousines are used for such purpose, the applicant has no authority to operate the same as taxicabs, and would not be permitted to operate them as a common carrier of passengers between the city of Evansville and the Municipal Airport without a certificate of public convenience and necessity.

It accordingly appears to the Commission that if the applicant company desires to operate said limousines as a common carrier of passengers between the city of Evansville and the Municipal Airport under a certificate of convenience and necessity, that said operation should be restricted to fixed termini over fixed routes and to such air passengers only as may desire transportation to and from said airport, together with the further requirement that such service be available to meet all incoming and outgoing commercial passenger airplanes at said airport.

---



5. Low oil level alarm and tripping switch.
6. Three-pole secondary air circuit breaker, manually closed, electrically or manually tripped.
7. Current transformer with thermal relay mounted in hottest oil in each phase. Relays light signal lamps when copper temperature in each phase reaches maximum operating levels and trip the breaker when safe emergency over-load temperature limits are reached.
8. Accessible switch for electrically resetting relays after signal or tripping operation.
9. Key-controlled interlock prevents operation of primary switch without first opening secondary breakers.
10. Potential transformer for auxiliary circuits.
11. Usual accessories such as no-load tap changer, oil thermometer, oil level indicator, filter press connections, drain valves, jack lugs, etc.

*Kuhlman*

# TRANSFORMER

# C.S.P.

# 1000 KVA

# KUHLMAN



Described here is the application of the C.S.P. principle to Power Transformers. Totally self contained, this transformer can be installed and connected directly to primary and secondary circuits without bus structures or external auxiliaries of any kind. The features that make this possible are:

1. Three-position oil immersed primary switch, permitting switching under excitation to or from either of two three-phase lines.
2. Lightning arresters protecting both primary lines.
3. Rugged, internal primary fusible links of high interrupting capacity for isolating transformer from power lines in case of internal failure.
4. Ample, sealed air space above oil with weather proof pressure relief device.



# Industrial Progress

*Selected information about products, supplies, and services offered by manufacturers. Also announcements of new literature and changes in personnel.*



## Hewitt Rubber Corp. Acquires Robins Conveyors Inc.

THOMAS ROBINS, JR., president of Hewitt Rubber Corporation of Buffalo, New York, recently announced that the company has acquired a controlling interest in Robins Conveyors Inc., of Passaic, New Jersey. In addition to directing the management of Hewitt since 1936, Mr. Robins has been chairman of the Robins Conveyors executive committee for the past five years; there has been a close association between the two companies.

According to the announcement, this combination establishes Hewitt as the only manufacturer able to engineer and build all parts of belt conveying systems under single management and responsibility. It is claimed that jointly Hewitt and Robins have built and installed throughout the world more of these "long line" conveyor belts than any other manufacturer.

The Robins Conveyors' subsidiary already is engaged in the design and production of materials handling systems in demand for conversion of industry to a peacetime basis besides the reconstruction of war-damaged areas.

## Consolidation of Horn Company and General Printing Ink Corp.

RECENTLY the stockholders of the A. C. Horn Company ratified the arrangement entered into by their board of directors to consolidate with the General Printing Ink Corporation.

The A. C. Horn Company will hereafter be known as a division of the General Printing Ink Corporation. It is contemplated that the consolidation will change its name to the Sun Chemical Corporation.

Plans are under way for joint research into many fields including paints, industrial finishes, adhesives, plastics, resins, new methods of pigment dispersion and general chemical research. The combined sales volume, catering to so many fields, calls for a vast expansion in research. It is expected that the strategic location of the plants of both companies throughout the country will enable them to lower dis-

tribution costs and give better service to customers.

It is contemplated that A. C. Horn will become a member of the board of directors of the General Printing Ink Corporation, and that A. E. Horn will succeed him as president of the A. C. Horn Company division.

## Houston Lighting & Power Starts Expansion Program

WORK has started on a \$3,000,000 expansion program at the West Junction plant of the Houston Lighting & Power Company which will double its steam electric generating capacity.

The unit will bring generating capacity up to 80,000 kilowatts, and will create a maximum of 300 jobs, according to Hiram O. Clarke, executive vice president of the company. The work is expected to be completed by next summer.

Ultimate plans of the company include erection of several other generating plants at points

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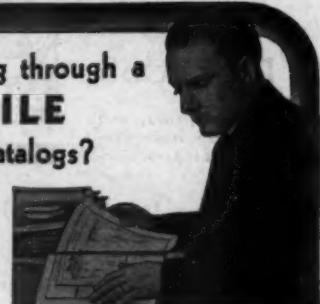
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on its system the size and capacity of West Junction, which is the junction of seven transmission circuits radiating in all directions to outlying towns.

**Dever Elected to Presidency of Brown Instrument Company**

LECTION of Henry F. Dever as president of the Brown Instrument Company, a wholly-owned subsidiary of the Minneapolis-Honeywell Regulator Company, was announced recently by Harold W. Sweat, president of the parent company.

Mr. Dever, who has been serving as vice president in charge of engineering for Minneapolis-Honeywell, succeeds Charles B. Sweat, as president of Brown. The latter has withdrawn from Brown and will henceforth devote his entire attention to supervision of the sales activities of Honeywell and its subsidiaries.

Mr. Dever will also assume the responsibilities of E. B. Eyleth, general manager of Brown, who, because of ill health, has requested that he be relieved of his duties.

Engineering activities of the parent company will be under the direction of W. J. McGoldrick, who has been vice president in charge of aeronautical engineering. Under Mr. McGoldrick will be consolidated the company's engineering activities in the domestic and industrial heating and air conditioning controls field, and the operation of the aeronautical engineering department.

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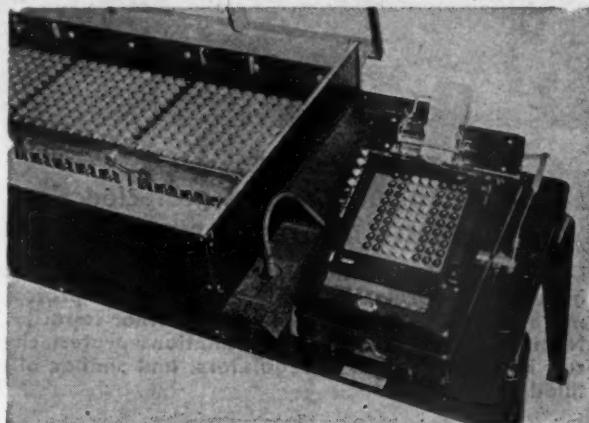
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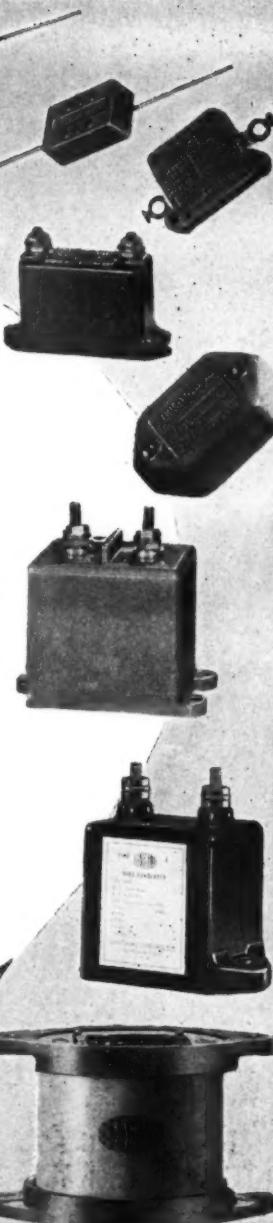
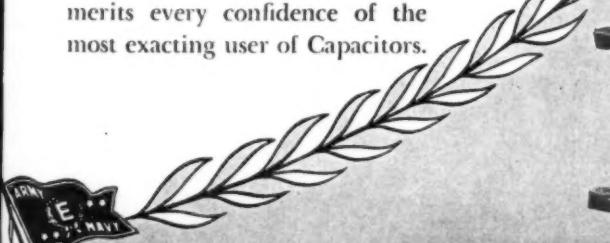
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EXCELLENCE  
IS BUILT INTO

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*Sangamo*  
**MICA  
CAPACITORS**

★ The many processes that are required in producing SANGAMO MICA CAPACITORS involve numerous critical operations. Some of these are MICA SPLITTING, MICA GAUGING, MICA PUNCHING, MICA INSPECTION, and CAPACITOR STACKING.

★ To achieve EXCELLENCE, a well planned, effective quality control is maintained every step of the way. Skilled operators have the most modern mechanical equipment with which to work. This, together with competent supervision, has enabled SANGAMO to play an important part in meeting the heavy and exacting requirements of wartime America.

★ The complete line of SANGAMO MICA CAPACITORS merits every confidence of the most exacting user of Capacitors.



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